

ARLEY
kseller.
ON TRENT



Sir Reynold Abels Alleyne
(BAR^T)

W. B. 18





T 3.41

R40039

12 vol. collection

£375



Digitized by the Internet Archive
in 2016

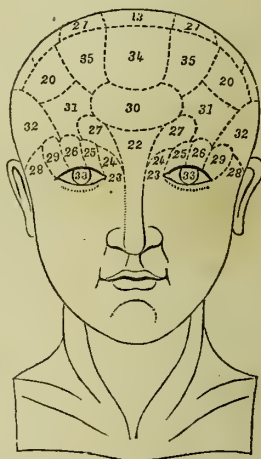
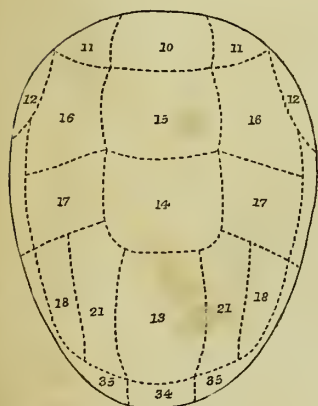
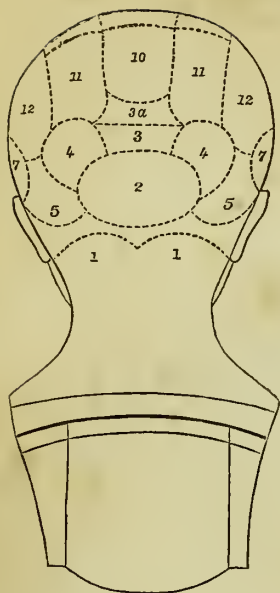
https://archive.org/details/b21980159_0001

The Birth day present to
our Reginald Almy
from his affectionate
Children Humphrey and
Philippa Remond 10th June
1846.



A
SYSTEM
OF
PHRENOLOGY.

PHRENOLOGICAL BUST.



NAMES OF THE MENTAL FACULTIES, THE POSITIONS OF THE ORGANS OF WHICH ARE MARKED UPON THE BUST.

AFFECTIVE.

I. PROPENSITIES.

1. Amativeness, vol. i. p. 183
2. Philoprogenitiveness, 193
3. Concentrativeness, 211
3. *a* Inhabitiveness, ib.
4. Adhesiveness, . 237
5. Combattivitàness, . 243
6. Destructiveness, 255
6. *a* Alimentiveness, 277
7. Secretiveness, . 294
8. Acquisitiveness, . 311
9. Constructiveness, 326

II. SENTIMENTS.

10. Self-Esteem, vol. i. p. 341
11. Love of Approbation, 357
12. Cautiousness, . 369
13. Benevolence, . 382
14. Veneration, . 399
15. Firmness, . 413
16. Conscientiousness, 418
17. Hope, . . . 443
18. Wonder, . . . 449
19. Ideality, . . . 469
19. *a* Unascertained, 477
20. Wit or Mirthfulness, 490
21. Imitation . . . 511

INTELLECTUAL.

I. PERCEPTIVE.

22. Individuality, vol. ii. p. 28
23. Form, . . . 35
24. Size, . . . 41
25. Weight, . . . 46
26. Colouring, . . 53
27. Locality, . . . 72
28. Number, . . . 83
29. Order, . . . 90
30. Eventuality, . . 92
31. Time, . . . 104
32. Tune, . . . 110
33. Language, . . . 124

II. REFLECTIVE.

34. Comparison, vol. ii. p. 151
35. Causality, . . . 163

A
SYSTEM
OF
PHRENOLOGY.

BY
GEORGE COMBE.

RES NON VERBA QUÆSO.

FIFTH EDITION.

VOL. I.

EDINBURGH:

MACLACHLAN, STEWART & CO.

LONGMAN & CO., AND SIMPKIN, MARSHALL & CO., LONDON;
D. ROBERTSON, GLASGOW; AND W. GRAPEL, LIVERPOOL.

MDCCCXLIII.

BIBLIOTH
COLL. REG.
MED. EDIN.

PRINTED BY NEILL & CO. OLD FISHMARKET, EDINBURGH.

PREFACE

TO THE

SECOND EDITION.

THE following are the circumstances which led to the publication of the present Work.

My first information concerning the system of Drs Gall and Spurzheim, was derived from No. 49. of the Edinburgh Review. Led away by the boldness of that piece of criticism, I regarded the doctrines as contemptibly absurd, and their authors as the most disingenuous of men. In 1816, however, shortly after the publication of the Review, my friend Mr Brownlee invited me to attend a private dissection of a recent brain, to be performed in his house by Dr Spurzheim. The subject was not altogether new, as I had previously attended a course of demonstrative lectures on Anatomy by Dr Barclay. Dr Spurzheim exhibited the structure of the brain

to all present (among whom were several gentlemen of the medical profession), and contrasted it with the bold averments of the Reviewer. The result was a complete conviction in the minds of the observers, that the assertions of the Reviewer were refuted by physical demonstration.

The faith placed in the Review being thus shaken, I attended the next course of Dr Spurzheim's lectures, for the purpose of hearing from himself a correct account of his doctrines. The lectures satisfied me, that the system was widely different from the representations given of it by the Reviewer, and that, if true, it would prove highly important; but the evidence was not conclusive. I therefore appealed to Nature by observation; and at last arrived at complete conviction of the truth of Phrenology.

In 1818, the Editor of the "Literary and Statistical Magazine for Scotland," invited me to a free discussion of the merits of the system in his work, and I was induced to offer him some essays on the subject. The notice which these attracted led to their publication in 1819, in a separate volume, under the title of "Essays on Phrenology." A second edition of these Essays has since been called for, and the present volume is offered in compliance with that demand. In the present work, I have adopted the title of "A System of Phrenology," on account of

the wider scope, and closer connexion, of its parts ; but pretend to no novelty in principle, and to no rivalry with the great founder of the science.

The controversial portions of the first edition are here almost entirely omitted. As the opponents have quitted the field, these appeared no longer necessary, and their place is supplied by what I trust will be found more interesting matter. Some readers may think that retributive justice required the continued republication of the answers to the attacks of the opponents, that the public mind, when properly enlightened, might express a just disapprobation of the conduct of those who so egregiously misled it : but Phrenology teaches us forbearance ; and, besides, it will be misfortune enough to the individuals who have distinguished themselves in the work of misrepresentation, to have their names handed down to posterity, as the enemies of one of the most important discoveries ever communicated to mankind.

In this work, the talents of several living characters are adverted to, and compared with the development of their mental organs,—which is a new feature in philosophical discussion, and might, without explanation, appear to some readers to be improper : But I have founded such observations on the *printed works, and published busts or casts*, of the

individuals alluded to ; and both of these being public property, there appeared no impropriety in adverting to them. In instances in which reference is made to the cerebral development of persons whose busts or casts are not published, I have ascertained that the observations will not give offence.

1825.

PREFACE

TO THE

FIFTH EDITION.

A STRIKING change has taken place in public opinion in regard to Phrenology since October 1819, when the first edition of this work appeared. Then, Phrenology and Phrenologists were assailed with every species of ridicule, and held in such contempt that few opponents considered it necessary to meet their statements either by adverse facts or by arguments. Now, a general impression prevails that there is more or less of truth in the doctrines, and that they merit a serious investigation. This opinion has been partly formed, and certainly is strongly supported, by the advocacy of the new views by three of the most influential Medical Journals of Great Britain. From an early date, Phrenology has been fully expounded, and its leading principles defended, in the *Medico-Chirurgical Review* and the London *Lancet*; and more recently by the *British*

and Foreign Medical Review.* With such aids, its eventual triumph over the still lingering prejudices of a part of the British public may be safely predicted. Nor has its progress in foreign countries been less satisfactory. In France, in the United States of America, and in Italy, the press affords evidence of the steady advance of the science; while in Germany also, where it was supposed to be extinct (but where, in point of fact, it scarcely had an existence beyond the persons of Drs Gall and Spurzheim, who left that country more than thirty years ago), it has at last taken root, and is diffused through the medium of a recently instituted German Phrenological Journal, and by a variety of individual treatises on its doctrines and applications. The fifth edition of this work, therefore, is presented to the public with less anxiety regarding the spirit in which it will be received than were any of its predecessors; but there is one preliminary point on which I consider it necessary to offer a few remarks.

I define Science to be a correct statement, methodically arranged, of facts in nature accurately observed, and of inferences from them logically deduced; and add, that there is a difference between

* Vol. IX. No. 17, and Vol. XIV. p. 65.

science and *established* science. When Newton published his discoveries regarding the composition of light, he recorded scientific truth; but his statements were at first denied and opposed; next they were discussed and tested; and it was only after a number of individuals, commanding public confidence by their talents and attainments, had concurred in testifying to their truth, that they were admitted as *established*. From the first, they were *established in nature, but not in human opinion*. The more difficult of proof a science is, the longer will be the time which will elapse before it is admitted as established.

Phrenology is not an *exact*, but an *estimative* science. It does not resemble mathematics, or even chemistry, in which measures of weight and number can be applied to facts; but, being a branch of physiology, it, like medical science, rests on evidence which can be observed and *estimated* only. We possess no means of ascertaining, in cubic inches, or in ounces, the exact quantity of cerebral matter which each organ contains, or of computing the precise degree of energy with which each faculty is manifested; we are able only to *estimate* through the eye and the hand the one, and by means of the intellect the other. It is true that when cases of large size and extreme deficiency in particular or-

gans are selected as the tests of the truth of Phrenology, the differences are so palpable, that no observer, of ordinary acuteness, can fail to perceive them, nor can he, in such instances, easily mistake the degree of power with which the corresponding faculties are manifested. But still this evidence, palpable as it is, can be obtained by means only of observation and reflection, and cannot be substantiated by measurements of quantity and number.

This circumstance renders the value attached by inquirers to the reported evidence in favour of Phrenology dependent on their estimate of the talents of the reporter for accurate observation, for correct inference, and for faithful relation. Hence, although Phrenology may be a correct representation of truths existing in nature, and in this respect may actually be a science; yet, from prejudice in the public mind, as well as from difficulties attending the evidence, it may be regarded by many as not yet an *established* science.

The history of science, indeed, shews that important discoveries have been rejected, and the discoverers opposed and ridiculed by their contemporaries, even in instances in which the truth of the new propositions was susceptible of ocular or mathema-

tical demonstration. We cannot, therefore, reasonably be surprised that some individuals object to the evidence in favour of Phrenology, recorded in this and other works, as not being sufficient to produce in their minds conviction of its truth. To such persons I respectfully suggest, that, if the recorded evidence be not to them satisfactory, they should appeal to nature. Phrenologists do not rest the truth of the science solely on reported cases ; they do not affirm that the existing recorded evidence is sufficient to *force* the assent of all minds ; but state, that, in order to obtain philosophical conviction, the inquirer who doubts should resort to personal observations. Dr Spurzheim (in his *Outlines*, p. 222) very early said, “ I again repeat, that I could here speak only of the results of the immense number of facts which we have collected. Several may complain of my not mentioning a greater number of those facts ; but in reply, I need only answer, that, were I to write as many books of cases as there are special organs, still no one could, on this subject, attain personal or individual conviction, before he had practically made the same observations. I may further remark, that the detailed narrative of a thousand cases, would not improve the science, more than that of a few characteristic ones, which state our meaning, and shew

what is to be observed, and how we are to observe. Self-conviction can be founded only on self-observation; and this cannot be supplied by continually reading similar descriptions of configuration. Such a proceeding may produce confidence, but not conviction. This requires the actual observation of nature."

In regard to the means of proof, Phrenology does not differ materially from some of the other sciences. The testimony of its supporters to points of fact must be either received or rejected by the student: If he reject it as insufficient, he is entitled to suspend his belief, but not to deny the truth of what is asserted. If he wish to obtain positive conviction that it is true or false, no course is open to him except to resort to personal observation.

I confess that I was one of those who regarded the cases reported by Dr Spurzheim as *not* furnishing *sufficient evidence* of the truth of Phrenology; but I acted according to his suggestion, and used them as *guides* to direct my own investigations. To obtain conviction, I made a direct appeal to nature. At first I found it difficult to discriminate the situations of the different organs, to estimate their relative proportions, to distinguish the manifestations

of particular faculties, and to judge of the degrees of their energy; but I perceived that difficulties of the same kind beset the student of medicine, and that no man had ever learned to distinguish diseases, to form accurate diagnosis and prognosis of them, by merely reading descriptions and reported cases of their treatment and cure. As the medical student learns anatomy only by the patient and direct application of his eye and hand to the structure of the body, and acquires skill in practical medicine only by resorting to the sick-beds of public hospitals and private families, so I saw that it was only by applying the hand and the eye to distinguish the situations and relative magnitudes of the cerebral organs, and by observing, in active life, the mental manifestations, that I could hope to become really skilled in Phrenology; and I followed this course accordingly. The result, after falling into many errors, and surmounting numerous difficulties, was the attainment of a deep conviction of the truth and importance of the doctrines, and it was only after reaching this point, that I became acquainted with the writings of Dr Gall.

But, as I had regarded in this light the facts reported by Dr Spurzheim, I could not, in consistency with reason, wish or expect that future inquirers

should view the cases reported by me as sufficient to supply the desideratum. I, therefore, mentioned them in the same spirit, and with the same objects, as those avowed by Dr Spurzheim in the foregoing quotation. This, however, in several instances has not been understood: While some individuals have, without hesitation, embraced Phrenology on the faith of the reported cases; others, also actuated by a sincere desire to arrive at truth, have complained of the insufficiency of this evidence to produce a scientific conviction in their minds, and they have in consequence objected to the statement as unwarranted, that certain of the organs are “regarded as established.” I beg leave to explain, that by this expression I mean, that the evidence which I have met with has produced the conviction in my own mind that the organs are established in nature; but I do not intend to affirm, that the facts and arguments adduced in this work, are of themselves sufficient to establish the reality of the organs to the satisfaction of every reader. In these circumstances, no better means of advancing the cause occurs to me, than to request every one in whom the recorded evidence fails to produce conviction, to resort to actual observation in the great field of nature.

I am aware of the unfavourable reception which

this request will meet with from the inquirer whose practice it is to sit in his library and read reports of scientific experiments and observations, to submit them to the searching analysis of a critical logic, and to admit or reject them, and the conclusions deduced from them, according to the results of this investigation. Such a person shrinks from examining heads, as a vulgar and ludicrous occupation; and from mingling in the din of busy life, as annoying to his habits of retirement, and distracting to his attention. He insists not only on trying Phrenology solely by the reported cases, but on including all who call themselves Phrenologists in the list of the witnesses on whose testimony he is entitled to decide. Nay, further, he considers himself authorized, on the result of this scrutiny, not only to suspend his belief, but positively to deny the truth of the whole, or of a greater or smaller portion of the doctrines. As reasonably might a scientific inquirer pass sentence on the value of Medical Science after merely reading the works of physicians, and studying cases reported by the most cautious practitioners and the most ignorant and unprincipled quacks, and assigning to them all an equal value.

Again, other inquirers, who have proceeded a cer-

tain length in making direct observations, have admitted, as ascertained,—some of them, the three great divisions of the brain into the organs of the animal propensities, the moral sentiments, and the intellectual faculties ;—others of them, not only these, but the functions of several of the larger individual organs ;—while they have dogmatically rejected all the other subdivisions, as unsupported by sufficient evidence. There are individuals, also, who deny the adequacy of the evidence to prove particular organs, which in their own brains are so small, that they experience great difficulty in comprehending the functions assigned to them. To such objectors I can reply only, in the words of Dugald Stewart, that the point reached by the end of their own sounding-line is not necessarily the bottom of the ocean. In 1819, the public, by almost universal acclamation, denounced the whole doctrines of Phrenology as sheer quackery and nonsense ; seven years afterwards, some influential individuals and public Journals admitted that there was some truth in the *principles* on which Phrenology was based ; after other seven years, the same authorities acknowledged that the division of the brain into the three great regions before mentioned, seemed to be supported by considerable evidence ; and at the close of a third period of seven

years, many competent judges admit that there are satisfactory proofs for several of the larger organs. During all this time, there has been no restriction of the limits, and no important variation in the doctrines, of Phrenology : The change that has taken place has been in public opinion ; and it has arisen from the greater degree of attention with which the public, or the individuals whom it recognises as its guides, have devoted themselves to the study of the principles, and to the observation of the facts, on which the doctrines are founded. Nor will this onward progress stop at its present point : I rest confident, that, at the end of the next seven years, still more of the details will be admitted to be true. Indeed, it appears to me, that the great facts and inductions of Phrenology, like those of many other sciences, will be ultimately received into the category of established truths, not in consequence of any rigidly scientific demonstration presented in the form of recorded evidence, but by general acquiescence, founded on the testimony of men on whose talents, judgment, and opportunities of observation, public reliance will be placed.

Far from either denying or undervaluing the importance of accurately reported evidence as a means of advancing the doctrines to the rank of an ES-

TABLISHED science, I desire to see this testimony increased ; but in the mean time I respectfully maintain, that Phrenology does contain a goodly array of correctly observed facts, and justly drawn conclusions, and that in this sense it *is* actually a science. I do not, however, condemn those who affirm that, from the paucity of well-qualified observers and reporters, it is not yet established in their opinion : all I urge is, that such persons are not entitled to *deny* the truth of the phrenological facts and inferences, but only to suspend their own judgment until they shall have resorted to personal observations.

Although I am far from asserting, for Phrenologists or myself, freedom from inaccuracy in observation and from error in induction, and farther still from deprecating the most rigid scrutiny into the cases which I have reported ; yet I do venture to say, that any inquirer, who will proceed, patiently and without bias, to interrogate Nature, and to observe cases of great size and marked deficiency in the development of individual organs (which afford the most certain and unequivocal proofs), will find the phrenological conclusions to be drawn with a degree of accuracy equal at least to that which is presented by other sciences that have been culti-

vated only for the same length of time, and which depend for their advancement on the observation and estimation of complicated natural phenomena.*

Large additions have been made to the present edition ; some new plates and cuts are given ; and, in treating of topics of interest, I have added references to other phrenological works in which they are discussed or illustrated, so as to render this edition an index, as far as possible, to the general literature of the science. The Appendix contains Testimonials in favour of the truth of Phrenology, and of its utility in the classification and treatment of criminals, presented in February 1836 by Sir George S. Mackenzie, one of the earliest and most zealous advocates of the science, to Lord Glenelg, Secretary for the Colonies. His Lordship subsequently transmitted the documents to Lord John Russell, Secretary for the Home Department, who promised to Sir George to bestow on them due consideration ; but up to the present time no movement has taken place on the subject. As truth cannot

* See an article on " The Nature of the Evidence by which the Functions of different parts of the Brain may be established," in the Phrenological Journal, vol. x. p. 556 ; and in " Gall on the Cerebellum," p. 181 : also, the Phren. Journ., vol. xii. p. 150, 346-7 ; vol. xiii. p. 97, 339 ; and vol. xiv. p. 4, 343.

die, I have been requested to continue the circulation of these documents along with the present edition, in the expectation that sooner or later they will lead to practical results.

Dr Spurzheim, in the American Edition of his "Phrenology," published at Boston in 1832, adopted a new arrangement of the organs, different from any which he had previously followed. It will be impossible, however, to arrive at a perfect classification and numeration of the organs until the whole of them shall have been discovered, and the primitive or elementary faculties shall have been ascertained. Any order, therefore, adopted in the mean time, must be to some extent arbitrary. Dr Spurzheim has shewn this to be the case by the frequent alterations which he has made in the numeration of the organs, without having added any corresponding discoveries to the science. The difficulties attending a correct classification are stated in the Appendix, No. II., and for the present I retain, as a matter of convenience, the order followed in the third and fourth editions of this work.

CONTENTS.

VOLUME I.

	Page
INTRODUCTION,	1
Opposition to Discoveries,	2
The Brain the Organ of the Mind,	8
Plurality of Faculties and Organs	24
Influence of Size on the power of Organs,	34
Temperament and Disease modify the effects of Size,	49
Effects of Exercise,	55
Connexion of particular Faculties and Organs,	56
Efforts of Metaphysicians,	53
of Moralists, Poets, and Divines,	68
of Physiologists,	65
History of Dr Gall's Discovery,	75
FUNCTIONS OF THE NERVES AND SPINAL MARROW,	84
PRINCIPLES OF PHRENOLOGY,	97
Discrimination of Mental Dispositions and Talents,	103
GENERAL REMARKS ON THE BRAIN,	107
Popular Observations on its Structure,	115
Integuments of the Brain,	120
Bones of the Skull,	121
Frontal Sinus,	127
ANATOMY OF THE BRAIN, CEREBELLUM, &c.	131
Practical Application of the Principles of Phrenology,	139
Relative Sizes of the Cerebral Lobes,	140
Length and breadth of the Organs,	146
Phrenological Bust,	149
Forms and appearances of the Organs,	152
Terms used to express their Sizes,	154
Table of Measurements by Callipers,	157
Absolute Size no criterion,	158
Brains of the Lower Animals,	160
Temperaments,	49, 163
Power and Activity,	166

	Page
What is a Faculty ?	171
Is the Mind Simple ?	172
DIVISION OF THE FACULTIES,	180
NATURAL LANGUAGE OF THE FACULTIES,	182

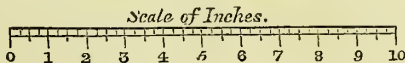
FACULTIES.

ORDER I.—FEELINGS,	183
Genus I.—PROPENSITIES,	ib.
1. Amativeness,	ib.
2. Philoprogenitiveness,	193
3. Concentrativeness,	211
4. Adhesiveness,	237
5. Combativeness,	243
6. Destructiveness,	255
Alimentiveness,	277
Love of Life,	289
7. Secretiveness,	294
8. Acquisitiveness,	311
9. Constructiveness,	326
Genus II.—SENTIMENTS,	340
I. <i>Sentiments common to Man and the</i>	
<i>Lower Animals,</i>	341
10. Self-Esteem,	ib.
11. Love of Approbation,	357
12. Cautiousness,	369
2. <i>Superior Sentiments,</i>	381
13. Benevolence,	382
14. Veneration,	399
15. Firmness,	413
16. Conscientiousness,	418
17. Hope,	443
18. Wonder	449
19. Ideality,	469
20. Wit or Mirthfulness,	490
21. Imitation,	511

LIST OF ENGRAVINGS.*

Amativeness, illustrations of, i. 185	Jervis, Jacob, . . . i. 519
American Indian, skull, i. 212; ii. 344	John, St, head, (1) . . . i. 403
Angelo, Michael, head, (1) ii. 29	Kandian, skull, . . . i. 381
Boy addicted to falsehood, i. 437	Linn, parricide, head, . . . i. 184
Brain : upper surface, (1) i. 108 ;	Locke, head, (1) . . . i. 477
under surface, (1) 138 ; side	M., Rev. Mr, head, . . . i. 184
view, (1) ib. ; section, (1) 116 ;	Maxwell, murderer, head, ii. 310
connection with spinal mar-	Melanethon, head, (1) . . . i. 141
row and nerves (1), . . . 89	Miser, (1) . . . i. 308
Brazil Indian, skull, . . . ii. 349	Moore, profile, . . . ii. 92
Burns, skull, . . . i. 195, 212, 382	Negro, skull, . . . ii. 351
Carib, skull, . . . ii. 338	Nerves, (2) . . . i. 85, 89, 91
Cat, skull, (2) . . . ii. 389	New Hollander, skull,
Chaucer, head, (1) . . . i. 477	i. 57, 331 ; ii. 339
Cingalese, skulls,	New Zealander, skull, . . . ii. 344
i. 144, 247, 255, 256, 369, 373, 381	Ormerod, Ann, head, . . . ii. 114
Crow, skull, (2) . . . ii. 390	Papuan, skull, . . . i. 184, 264
Dobson, William, head, (1) ii. 40	Peruvian, skull, . . . i. 195
Esquimaux, skull, i. 203, 264, 438	Pitt, profile, . . . ii. 92
Eustache, Negro, head, i. 142, 386	Rammohun Roy, head, . . . i. 45
Firmness large, . . . i. 416	Sandwich Islander, skull, ii. 356
Fisher, Clara, . . . i. 519	Scotch skull, . . . ii. 359
Forms associated with names, ii. 38	Secretiveness large, . . . i. 295
François Cordonnier, . . . i. 341	Self-Esteem large, . . . i. 341
French soldier, skull, . . . i. 416	Sheridan, profile, . . . ii. 92
Frontal sinus, . . . i. 127	Skull : section shewing falciform
Girl with small Cautiousness and	process, i. 122 ; section shew-
Firmness, skull, i. 369, 399, 416	ing frontal sinus, 127 ; bones
Gottfried, murderess, i. 142, 144	of, 138 ; skull as marked by
Greek, skull, . . . i. 331 ; ii. 358	Vimont, . . . 211, 232
Griffiths, murderer, . . . i. 382	Spaniel Bitch, skull, (2) ii. 389
H., Mrs, head, . . . i. 437	Spinal marrow, (2) . . . i. 89, 91
Hare, murderer, head, . . . i. 141	Spurzheim, skull, . . . i. 57
Haggart, head, . . . i. 437	Swiss, skull, . . . ii. 357
Handel, head, (1) . . . ii. 114	Tardy, murderer, . . . i. 255, 256
Head divided into regions by	Tasso, head, (1) . . . i. 453
Dolce, (1) . . . i. 33	Temperaments, illustrations of
Hette, Dr, skull, . . . i. 399	the, (2) . . . i. 50
Hindoo, skull, . . . i. 294 ; ii. 337	Vitellius, head, (1) . . . i. 146
Idiot, head, . . . i. 45	Wurmser, General, skull, . . . i. 247

* The figures marked (1) are copied from engraved portraits, &c. in general circulation; the others, with the exception of those marked (2), are drawn from skulls, or casts from nature, in the collection of the Phrenological Society. These figures of skulls and casts are drawn as nearly as possible on the same scale, the dimensions being reduced to one fifth of those of the real subjects, except in the case of the figures on pages 122 and 127 of vol. i. The scale is subjoined,



The measurements in the Tables in vol. i. p. 157, and vol. ii. p. 370, are taken by inserting the point of the leg of a pair of callipers into the hole of the ear, and bringing the point of the other leg to the centre of the situation of the organ on the skull. The distance noted in the tables is the length of a straight line extending from one of these points to the other. In reducing the skulls to a flat surface in the drawings, the measurements could not be made to correspond exactly with those given in the tables, because the lines represented are different. The approximation, however, is as great as possible, and one principle is followed in all the drawings, so that relatively to each other they are correct.

ERRATA.

- Vol. i. p. 18, ninth line from bottom, *for* James Gmapes, *read* James J. Mapes,
82, last line, *for* Life of Cicero. *read* Miscellaneous Works, Preface.
228, second line from bottom, *for* eighteenth *read* eighteen
379, line 11, *for* quadrumani *read* quadrumana
- Vol. ii. p. 345, line 13, *for* relicts, *read* relics,
388 to 391, head-title, *for* cerebral *read* comparative
423, line 3, *after* text, *insert* vol. i.
425, — 3, *after* text, *insert* vol. i.
433, — 3, *after* text, *insert* vol. i.
-

DIRECTIONS TO THE BINDER.

The Engraving of the Phrenological Bust faces the Title-
Page of vol. i.

Plates I and II face vol. i. p. 50.

Plates III, IV, V, and VI, face vol. i. p. 138.

Let pages 71 to 74 of vol. i. be properly inserted between
pages 70 and 75.

A

SYSTEM

OF

PHRENOLOGY.

INTRODUCTION.

PHRENOLOGY, (derived from the Greek word *φῆνῃ*, mind, and *λογος*, discourse,) professes to be a system of Philosophy of the Human Mind, founded on the physiology of the brain. It was first offered to public consideration on the continent of Europe in 1796, but in Britain was almost unheard of till the year 1815. It has met with strenuous support from some individuals, and determined opposition from others; while the great body of the public remain uninstructed as to its merits. On this account, it may be useful to present, in an introductory form, *1st*, A short notice of the reception which other discoveries have met with on their first announcement; *2dly*, A brief outline of the principles involved in Phrenology; *3dly*, An inquiry into the presumptions for and against these principles, founded on the known phenomena of human nature; and, *4thly*, An historical sketch of the discovery of the organs of the mind.

I shall follow this course, not with a view of convincing the reader that Phrenology is true, (because nothing short of patient study and extensive personal observation can produce this conviction,) but for the purpose of presenting him

with motives to prosecute the investigation for his own satisfaction.

First, then—one great obstacle to the reception of a discovery is the difficulty which men experience in at once parting with old notions which have been instilled into their minds from infancy, and become the stock of their understandings. Phrenology has encountered this impediment, but not in a greater degree than other discoveries which have preceded it. Locke, in speaking of the common reception of new truths, says: “Who ever, by the most cogent arguments, will be prevailed with to disrobe himself at once of all his old opinions and pretences to knowledge and learning, which with hard study he hath all his time been labouring for, and turn himself out stark naked in quest afresh of new notions? All the arguments that can be used, will be as little able to prevail as the wind did with the traveller to part with his cloak, which he held only the faster.”¹

Professor Playfair, in his historical notice of discoveries in physical science, contained in the third Preliminary Dissertation in the *Encyclopædia Britannica*, observes, that “in every society there are some who think themselves interested to maintain things in the condition wherein they have found them. The considerations are indeed sufficiently obvious, which, in the moral and political world, tend to produce this effect, and to give a stability to human institutions, often so little proportionate to their real value or to their general utility. Even in matters purely intellectual, and in which the abstract truths of arithmetic and geometry seem alone concerned, the prejudices, the selfishness, or vanity of those who pursue them, not unfrequently combine to resist improvement, and often engage no inconsiderable degree of talent in drawing back, instead of pushing forward, the machine of science. The introduction of methods entirely new must often change the relative place of the men engaged in scientific pursuits; and must oblige many, after descending from the stations they formerly oc-

¹ Locke *On the Human Understanding*, b. iv. c. 20, sect. 11.

cupied, to take a lower position in the scale of intellectual advancement. The enmity of such men, if they be not animated by a spirit of real candour, and the love of truth, is likely to be directed against methods by which their vanity is mortified, and their importance lessened.”¹

Every age has afforded proofs of the justness of these observations. “The disciples of the various philosophical schools of Greece inveighed against each other, and made reciprocal accusations of impiety and perjury. The people, in their turn, detested the philosophers, and accused those who investigated the causes of things of presumptuously invading the rights of the Divinity. Pythagoras was driven from Athens, and Anaxagoras was imprisoned, on account of their novel opinions. Democritus was treated as insane by the Abderites for his attempts to find out the cause of madness by dissections; and Socrates, for having demonstrated the unity of God, was forced to drink the juice of hemlock.”²

But let us attend in particular to the reception of the three greatest discoveries that have adorned the annals of philosophy, and mark the spirit with which they were hailed.

Mr Playfair, speaking of the treatment of Galileo, says:—“Galileo was twice brought before the Inquisition. The first time, a council of seven cardinals pronounced a sentence which, for the sake of those disposed to believe that power can subdue truth, ought never to be forgotten: viz. That to maintain the sun to be immoveable, and without local motion, in the centre of the world, is an absurd proposition, false in philosophy, heretical in religion, and contrary to the testimony of Scripture; and it is equally absurd and false in philosophy to assert that the earth is not immoveable in the centre of the world, and, considered theologically, equally erroneous and heretical.” The following extract from Galileo’s Dialogue on the Copernican

¹ *Encyclopædia Britannica*, 7th edit. i. 533.

² Dr Spurzheim’s *Philosophical Principles of Phrenology*. London, 1825, p. 96.

System of Astronomy, shews, in a very interesting manner, how completely its reception was similar to that of Phrenology.

“Being very young, and having scarcely finished my course of philosophy, which I left off as being set upon other employments, there chanced to come into those parts a certain foreigner of Rostoch, whose name, as I remember, was Christianus Urstitius, a follower of Copernicus, who, in an academy, gave two or three lectures upon this point, to whom many flocked as auditors; but I, thinking they went more for the novelty of the subject than otherwise, did not go to hear him: for I had concluded with myself that that opinion could be no other than a solemn madness; and questioning some of those who had been there, I perceived they all made a jest thereof, except one, who told me that the business was not altogether to be laughed at: and because the man was reputed by me to be very intelligent and wary, I repented that I was not there, and began from that time forward, as oft as I met with any one of the Copernican persuasion, to demand of them if they had been always of the same judgment. Of as many as I examined, I found not so much as one who told me not that he had been a long time of the contrary opinion, but to have changed it for this, as convinced by the strength of the reasons proving the same; and afterwards questioning them one by one, to see whether they were well possessed of the reasons of the other side, I found them all to be very ready and perfect in them, so that I could not truly say that they took this opinion out of ignorance, vanity, or to shew the acuteness of their wits. On the contrary, of as many of the Peripatetics and Ptolomeans as I have asked (and out of curiosity I have talked with many) what pains they had taken in the book of Copernicus, I found very few that had so much as superficially perused it, but of those who I thought had understood the same, not one: and, moreover, I have inquired amongst the followers of the Peripatetic doctrine, if ever any of them had held the contrary opinion, and likewise found none that

had. Whereupon, considering that there was no man who followed the opinion of Copernicus that had not been first on the contrary side, and that was not very well acquainted with the reasons of Aristotle and Ptolemy, and, on the contrary, there was not one of the followers of Ptolemy that had ever been of the judgment of Copernicus, and had left that to embrace this of Aristotle ;—considering, I say, these things, I began to think that one who leaveth an opinion imbued with his milk and followed by very many, to take up another, owned by very few and denied by all the schools, and that really seems a great paradox, must needs have been moved, not to say forced, by more powerful reasons. For this cause I became very curious to dive, as they say, into the bottom of this business.”

It is mentioned by Hume, that Harvey was treated with great contumely on account of his discovery of the circulation of the blood, and in consequence lost his practice. An eloquent writer in the 94th Number of the *Edinburgh Review*, when speaking of the treatment of Harvey, observes, that “the discoverer of the circulation of the blood—a discovery which, if measured by its consequences on physiology and medicine, was the greatest ever made since physic was cultivated—suffers no diminution of his reputation in our day, from the incredulity with which his doctrine was received by some, the effrontery with which it was claimed by others, or the knavery with which it was attributed to former physiologists by those who could not deny and would not praise it. The very names of these envious and dishonest enemies of Harvey are scarcely remembered ; and the honour of this great discovery now rests, beyond all dispute, with the great philosopher who made it.” This shews that Harvey, in his day, was treated exactly as Dr Gall has been in ours ; and if Phrenology be true, these or similar terms may one day be applied by posterity to him and his present opponents.

Again, Professor Playfair, with reference to the discovery of the composition of light by Sir Isaac Newton, says :

“ Though the discovery now communicated had every thing to recommend it which can arise from what is great, new, and singular ; though it was not a theory or a system of opinions, but the generalization of facts made known by experiments ; and though it was brought forward in the most simple and unpretending form ; a host of enemies appeared, each eager to obtain the unfortunate pre-eminence of being the first to attack conclusions which the unanimous voice of posterity was to confirm. . . . Among them one of the first was Father Pardies, who wrote against the experiments, and what he was pleased to call the hypothesis, of Newton. A satisfactory and calm reply convinced him of his mistake, which he had the candour very readily to acknowledge. A countryman of his, Mariotte, was more difficult to be reconciled, and, though very conversant with experiment, appears never to have succeeded in repeating the experiments of Newton.”¹ A farther account of the hostility with which Newton’s discoveries were received by his contemporaries, will be found in his *Life* by Brewster, p. 171.

Here, then, we see that persecution, condemnation, and ridicule, awaited Galileo, Harvey, and Newton, for announcing three great scientific discoveries. In mental philosophy the conduct of mankind has been similar.

Aristotle and Descartes “ may be quoted, to shew the good and bad fortune of new doctrines. The ancient antagonists of Aristotle caused his books to be burned ; but in the time of Francis I. the writings of Ramus against Aristotle were similarly treated, his adversaries were declared heretics, and, under pain of being sent to the galleys, philosophers were prohibited from combating his opinions. At the present day, the philosophy of Aristotle is no longer spoken of. Descartes was persecuted for teaching the doctrine of innate ideas ; he was accused of atheism, though he had written on the existence of God ; and his books were burned by order of the University of Paris. Shortly after-

¹ *Encyc. Brit.* i. 551.

wards, however, the same learned body adopted the doctrine of innate ideas ; and when Locke and Condillac attacked it, the cry of materialism and fatalism was turned against them. Thus the same opinions have been considered at one time as dangerous because they were new, and at another as useful because they were ancient. What is to be inferred from this, but that man deserves to be pitied ; that the opinions of contemporaries on the truth or falsehood, and the good or bad consequences, of a new doctrine, are always to be suspected ; and that the only object of an author ought to be to point out the truth.”¹

To these extracts many more might be added of a similar nature ; but enough has been said to demonstrate, that, by the ordinary practice of mankind, great discoveries are treated with hostility, and their authors with hatred and contempt, or at least with neglect, by the generation to which they are originally published.

If, therefore, Phrenology be a discovery at all, and especially if it be also important, it must of necessity come into collision, on the most weighty topics, with the opinions of men hitherto venerated as authorities in physiology and the philosophy of mind ; and, according to the custom of the world, nothing but opposition, ridicule, and abuse, could be expected on its first announcement. If we are to profit, however, by the lessons of history, we ought, after surveying these mortifying examples of human weakness and wickedness, to dismiss from our minds every prejudice against the subject before us, founded on its hostile reception by men of established reputation of the present day. He who does not perceive that, if Phrenology shall prove to be true, posterity will regard the contumelies heaped by the philosophers of this generation on its founders as another dark speck in the history of scientific discovery,—and who does not feel anxious to avoid all participation in this ungenerous treatment,—has reaped no moral improvement from the re-

¹ Dr Spurzheim's *Philosophical Principles of Phrenology*, p. 97.

cords of intolerance which we have now contemplated : But every enlightened individual will say, Let us dismiss prejudice, and calmly listen to evidence and reason ; let us not encounter even the chance of adding our names to the melancholy list of the enemies of mankind, by refusing, on the strength of mere prejudice, to be instructed in the new doctrines submitted to our consideration ; let us inquire, examine, and decide.

These, I trust, are the sentiments of the reader ; and on the faith of their being so, I shall proceed, in the second place, to state very briefly the principles of Phrenology.

It is a notion inculcated—often indirectly no doubt, but not less strongly—by highly venerated teachers of intellectual philosophy, that we are acquainted with Mind and Body as two distinct and separate entities. The anatomist treats of the body, and the logician and moral philosopher of the mind, as if they were separate subjects of investigation, either not at all, or only in a remote and unimportant degree, connected with each other. In common society, too, men speak of the dispositions and faculties of the mind, without thinking of their close connexion with the body.

But the human mind, as it exists in this world, cannot, *by itself*, become an object of philosophical investigation. Placed in a material world, it cannot act or be acted upon, but through the medium of an organic apparatus. The soul sparkling in the eye of beauty transmits its sweet influence to a kindred spirit only through the filaments of an optic nerve ; and even the bursts of eloquence which flow from the lips of the impassioned orator, when mind appears to transfuse itself almost directly into mind, emanate from, and are transmitted to, corporeal beings, through a voluminous apparatus of organs. If we trace the mind's progress from the cradle to the grave, every appearance which it presents reminds us of this important truth. In earliest life the mental powers are feeble as the body ; but when manhood comes, they glow with energy, and expand with power ; till

at last the chill of age makes the limbs totter, and the fancy's fires decay.

Nay, not only the great stages of our infancy, vigour, and decline, but the experience of every hour, remind us of our alliance with the dust. The lowering clouds and stormy sky depress the spirits and enerve the mind ;—after short and stated intervals of toil, our wearied faculties demand repose in sleep ;—famine or disease is capable of levelling the proudest energies with the earth ;—and even the finest portion of our compound being, the Mind itself, apparently becomes diseased, and, leaving nature's course, flies to self-destruction to escape from wo.

These phenomena must be referred to the organs with which, in this life, the mind is connected : but if the organs exert so great an effect over the mental manifestations, no system of philosophy can be looked on as complete, which neglects their influence, and treats the thinking principle as a disembodied spirit. The phrenologist, therefore, regards man as he exists in this world ; and desires to investigate the laws which regulate the connexion between the mind and its organs, but without attempting to discover the essence of either, or the manner in which they are united.

The popular notion, that we are acquainted with mind unconnected with matter, is therefore founded on an illusion. In point of fact, we do not in this life know mind as one entity, and body as another ; but we are acquainted only with the compound existence of mind and body. A few remarks will place this doctrine in its proper light.

In the first place, we are not *conscious* of the existence of the organs by means of which the mind operates in this life, and, in consequence, many acts appear to us to be purely mental, which experiment and observation prove incontestibly to depend on corporeal organs. For example, in stretching out or withdrawing the arm, we are conscious of an act of the will, and of the consequent movement of the arm, but not of the existence of the apparatus by means of which our volition is carried into execution. Experi-

ment and observation, however, demonstrate the existence of bones of the arm curiously articulated and adapted to motion; of muscles endowed with the power of contraction; and of three sets of nervous fibres all running in one sheath—one communicating feeling, a second exciting motion, and a third believed to convey to the mind information of the state of the muscles, when in action; all which organs, except the nerve of feeling, must combine and act harmoniously before the arm can be moved and regulated by the will. All that a person uninstructed in anatomy knows, is, that he wills the motion, and that it takes place; the whole act appears to him to be purely mental, and only the arm, or thing moved, is conceived to be corporeal. Nevertheless, it is positively established by anatomical and physiological researches that this conclusion is erroneous—that the act is not purely mental, but is accomplished by the instrumentality of the various organs now enumerated. In like manner, every action of vision involves a certain state of the optic nerve, and every act of hearing a certain state of the tympanum; yet of the existence and functions of these organs we obtain, by means of consciousness, no knowledge whatever.

Now, I go one step farther in the same path, and state, that every act of the will, every flight of imagination, every glow of affection, and every effort of the understanding, in this life, is performed by means of the cerebral organs, unknown to us through consciousness, but the existence of which may be demonstrated by experiment and observation; in other words, that *the brain is the organ of the mind*—the material condition without which no mental act is possible in the present world. The greatest physiologists admit this proposition without hesitation. The celebrated Dr Cullen of Edinburgh states, that “the part of our body more immediately connected with the mind, and therefore more especially concerned in every affection of the intellectual functions, is the common origin of the nerves; which I shall, in what follows, speak of under the appellation of

the brain." Again, the same author says: "We *cannot doubt* that the operations of our intellect *always* depend upon certain motions taking place in the brain." The late Dr James Gregory, when speaking of memory, imagination, and judgment, observes, that "Although at first sight these faculties appear to be so purely mental as to have no connexion with the body, yet certain diseases which obstruct them prove, that a certain state of the brain is necessary to their proper exercise, and that the brain is the primary organ of their internal powers." The great physiologist of Germany, Blumenbach, says: "That the mind is closely connected with the brain, as the material condition of mental phenomena, is demonstrated by our consciousness, and by the mental disturbances which ensue upon affections of the brain."¹ According to Magendie, a celebrated French physiologist, "the brain is the material instrument of thought: this is proved by a multitude of experiments and facts."

"I readily concur," says Mr Abernethy, "in the proposition, that the brain of animals ought to be regarded as the organization by which the percipient principle becomes variously affected. First, because, in the senses of sight, hearing, &c. I see distinct organs for the production of each perception. Secondly, because the brain is larger and more complicated in proportion as the variety of the affections of the percipient principle is increased. Thirdly, because disease and injuries disturb and annul particular faculties and affections without impairing others. And, fourthly, because it seems more reasonable to me to suppose that whatever is perceptive may be variously affected by means of vital actions transmitted through a diversity of organization, than to suppose that such variety depends upon original differences in the nature of the percipient principle."

"If the mental processes," asks Mr Lawrence, "be not the functions of the brain, what is its office? In animals which possess only a small part of the human cerebral struc-

¹ Elliotson's translation of Blumenbach's *Physiology*, 4th edit. p. 196.

ture, sensation exists, and in many cases is more acute than in man. What employment shall we find for all that man possesses over and above this portion—for the large and prodigiously-developed human hemispheres? Are we to believe that these serve only to round the figure of the organ, or to fill the cranium?"¹ And in another place he says:—"In conformity with the views already explained respecting the mental part of our being, I refer the varieties of moral feeling, and of capacity for knowledge and reflection, to those diversities of cerebral organization which are indicated by, and correspond to, the differences in the shape of the skull."²

Dr Mason Good, speaking of intellect, sensation, and muscular motion, says:—"All these diversities of vital energy are now well known to be dependent on the organ of the brain, as the instrument of the intellectual powers, and the source of the sensific and motory; though, from the close connexion and synchronous action of various other organs with the brain, and especially the thoracic and abdominal viscera, such diversities were often referred to several of the latter in earlier ages, and before anatomy had traced them satisfactorily to the brain as their fountain-head. And of so high an antiquity is this erroneous hypothesis, that it has not only spread itself through every climate on the globe, but still keeps a hold on the colloquial language of every people; and hence the heart, the liver, the spleen, the reins, and the bowels, generally are, among all nations, regarded, either literally or figuratively, as so many seats of mental faculties or moral feeling. . . . The study of anatomy, however, has corrected the loose and confused ideas of mankind upon this subject; and while it distinctly shews us that many of the organs popularly referred to as the seat of sensation, do, and must, from the peculiarity of their nervous connexion with the brain, necessarily participate in the feelings and faculties thus generally ascribed to them, it also demonstrates that the primary source of these attri-

¹ *Lectures on Physiology*, &c. Lect. 4.

² *Ibid.* Sect. ii. ch. 3.

butes, the quarter in which they originate, or which chiefly influences them, is the brain itself.”¹

Dr Neil Arnott, in his *Elements of Physics*, writes thus : —“ The laws of mind which man can discover by reason, are not laws of independent mind, but of mind in connection with body, and influenced by the bodily condition. It has been believed by many, that the nature of mind separate from body, is to be at once all-knowing and intelligent. But mind connected with body can only acquire knowledge slowly, through the bodily organs of sense, and more or less perfectly according as these organs and the central brain are perfect. A human being born blind and deaf, and therefore remaining dumb, as in the noted case of the boy Mitchell, grows up closely to resemble an automaton ; and an originally misshapen or deficient brain causes idiocy for life. Childhood, maturity, dotage, which have such differences of bodily powers, have corresponding differences of mental faculty : and as no two bodies, so no two minds, in their external manifestation, are quite alike. Fever, or a blow on the head, will change the most gifted individual into a maniac, causing the lips of virgin innocence to utter the most revolting obscenity, and those of pure religion to speak the most horrible blasphemy : and most cases of madness and eccentricity can now be traced to a peculiar state of the brain.” (Introduction, p. xxiii.) Let it be observed, that most of these authors are not among the supporters of Phrenology.²

The fact that the mental phenomena of which we are conscious are the result of mind and brain acting together, is farther established by the effects of swooning, of compression of the brain, and of sleep. In profound sleep consciousness is entirely suspended : this fact is explicable on the principle of the organ of the mind being then in a state of

¹ Good's *Study of Medicine*, 2d edit. iv. 3, 4.

² Additional authorities are cited by Mr Wildsmith, in his excellent *Inquiry concerning the Relative Connexion which subsists between the Mind and the Brain*. London, 1828.

repose ; but it is altogether inconsistent with the idea of the immaterial principle, or the mind itself, being capable of acting independently of the brain—for if this were the case, thinking could never be interrupted by any material cause. In a swoon, blood is rapidly withdrawn from the brain, and consciousness is for the moment obliterated. So also, where part of the brain has been laid bare by any injury inflicted on the skull, it has been found that consciousness could be suspended at the pleasure of the surgeon, by merely pressing on the brain with his fingers, and that it could be restored by withdrawing the pressure. A few such cases may be cited :—

M. Richerand had a patient whose brain was exposed in consequence of disease of the skull. One day, in washing off the purulent matter, he chanced to press with more than usual force ; and instantly the patient, who, the moment before, had answered his questions with perfect correctness, stopped short in the middle of a sentence, and became altogether insensible. As the pressure gave her no pain, it was repeated thrice, and always with the same result. She uniformly recovered her faculties the moment the pressure was taken off. M. Richerand mentions also the case of an individual who was trepanned for a fracture of the skull, and whose faculties and consciousness became weak in proportion as the pus so accumulated under the dressings as to occasion pressure of the brain.¹ A man at the battle of Waterloo had a small portion of his skull beaten in upon the brain, and became quite unconscious and almost lifeless ; but Mr Cooper having raised up the depressed portion of bone, the patient immediately arose, dressed himself, became perfectly rational, and recovered rapidly.² Professor Chapman of Philadelphia mentions in his Lectures, that he saw an individual with his skull perforated and the brain exposed, who used to submit himself to the same experiment of pressure as that performed on Richerand's patient, and who was

¹ *Nouveaux Elémens de Physiologie*, 7th edit., ii. 195-6.

² Hennen's *Principles of Military Surgery*.

exhibited by the late Professor Wistar to his class. The man's intellect and moral faculties disappeared when pressure was applied to the brain: they were literally "held under the thumb," and could be restored at pleasure to their full activity.¹ A still more remarkable case is that of a person named Jones, recorded by Sir Astley Cooper. This man was deprived of consciousness, by being wounded in the head, while on board a vessel in the Mediterranean. In this state of insensibility he remained for several months at Gibraltar, whence he was transmitted to Deptford, and subsequently to St Thomas's Hospital, London. Mr Cline, the surgeon, found a portion of the skull depressed, trepanned him, and removed the depressed part of the bone. Three hours after this operation he sat up in bed, sensation and volition returned, and in four days he was able to get up and converse. The last circumstance he remembered was the capture of a prize in the Mediterranean thirteen months before.—A young man at Hartford, in the United States of America, was rendered insensible by a fall, and had every appearance of being in a dying condition. Dr Brigham removed more than a gill of clotted blood from beneath the skull; upon which "the man immediately spoke, soon recovered his mind entirely, and is now, six weeks after the accident, in good health both as to mind and body."²

The question may present itself, Why did these injuries, which were inflicted only on a small portion of the brain, induce general insensibility, instead of disturbing only a single faculty? Answer.—The brain is soft and pulpy; and is very full of bloodvessels, which during life contain a large quantity of blood. It is enveloped in air-tight membranes, so that it approaches very closely to the condition of a fluid mass contained within a hollow sphere. By the law which

¹ *Principles of Medicine*, by Samuel Jackson, M. D.

² *Remarks on the Influence of Mental Cultivation, &c. upon Health*. By Amariah Brigham, M. D. 2d edit. p. 23. Boston, U. S. 1833. Several of the cases in the text have already been collected by this very intelligent writer.

regulates the pressure of fluids, force applied to any portion of such a mass, diffuses itself equally over the whole of it; and every part is pressed with the same degree of force. This law applies to the brain; and all the faculties are suspended, because all the brain is compressed. If a blow cut the skull and integuments, so as to allow the blood to flow outwardly, and the brain to protrude, general insensibility will not ensue.

PINEL relates a case which strikingly illustrates the connexion of the mind with the brain. "A man," says he, "engaged in a mechanical employment, and afterwards confined in the Bicêtre, experiences at regular intervals fits of madness characterized by the following symptoms. At first there is a sensation of burning heat in the abdominal viscera, with intense thirst, and a strong constipation; the heat gradually extends to the breast, neck, and face,—producing a flush of the complexion; on reaching the temples, it becomes still greater, and is accompanied by very strong and frequent pulsations in the temporal arteries, which seem as if about to burst: finally, the nervous affection arrives at the brain; the patient is then seized with an irresistible propensity to shed blood; and if there be a sharp instrument within reach, he is apt to sacrifice to his fury the first person who presents himself."¹ The same writer speaks of another insane patient, whose manners were remarkably mild and reserved during his lucid intervals, but whose character was totally altered by the periodical morbid excitement of his brain; for, says Pinel, "on the return of the paroxysm, *particularly when marked by a certain redness of the face, excessive heat in the head, and a violent thirst*, his walk is precipitate, his look is full of audacity, and he experiences the most violent inclination to provoke those who approach him, and to fight with them furiously."² Dr Richy has recorded the case of a Madagascar negro, who had an attack of an intensely ferocious delirium, in consequence

¹ Pinel, *sur l'Aliénation Mentale*, p. 157, § 160.

² *Op. cit.* p. 101. § 116.

of a wound on the head near the lower part of the left parietal bone. When recovering, he was calmer, and less blood-thirsty ; but an overpressure of his bandage on the wound brought back his furious paroxysms.¹

That the brain is the organ of the mind, is strongly confirmed by the phenomena observed when it is exposed to view, in consequence of the removal of a part of the skull. Sir Astley Cooper mentions the case of a young gentleman who was brought to him after losing a portion of his skull just above the eyebrow. "On examining the head," says Sir Astley, "I distinctly saw the pulsation of the brain ; it was regular and slow ; but, at this time, he was agitated by some opposition to his wishes, and directly the blood was sent with increased force to the brain, and the pulsation became frequent and violent. If, therefore," continues Sir Astley, "you omit to keep the mind free from agitation, your other means will be unavailing" in the treatment of injuries of the brain.²

In a case of a similar description, which fell under the notice of Blumenbach, that physiologist observed the brain to sink whenever the patient was asleep, and to swell again with blood the moment he awoke.³

A third case is reported by Dr Pierquin, as having been observed by him in one of the hospitals of Montpellier, in the year 1821. The patient was a female, who had lost a large portion of her scalp, skull, and dura mater, so that a corresponding portion of the brain was subject to inspection. When she was in a dreamless sleep, her brain was motionless, and lay within the cranium. When her sleep was imperfect, and she was agitated by dreams, her brain moved, and protruded without the cranium, forming cerebral hernia. In vivid dreams, reported as such by herself, the protrusion was considerable ; and when she was perfectly awake, especially if engaged in active thought or sprightly

¹ *Journal de la Société Phrénologique de Paris*, No. 2, p. 171.

² Sir A. Cooper's *Lectures on Surgery*, by Tyrrel, i. 279.

³ Elliotson's *Blumenbach*, 4th edit. p. 283.

conversation, it was still greater.¹ A writer in the *Medico-Chirurgical Review*, after alluding to this case, mentions that many years ago he had "frequent opportunities of witnessing similar phenomena in a robust young man, who lost a considerable portion of his skull by an accident which had almost proved mortal. When excited by pain, fear, or anger, his brain protruded greatly, so as sometimes to disturb the dressings, which were necessarily applied loosely; and it throbbed tumultuously, in accordance with the arterial pulsations."²

The cause of these appearances obviously was, that the brain, like the muscles and other organs of the body, is more copiously supplied with blood when in a state of activity than while at rest; and that when the cerebral blood-vessels were filled, the volume of the brain was augmented, and the protrusion above noticed took place.

On 15th May 1839, I saw, in New York, a girl of eight years of age, who four years before that time had fallen from a height of two stories, and fractured her skull extensively at the crown. Dr Matt removed a large portion of the two parietal bones, and found the brain and pia mater uninjured. I saw the pieces of the skull which had been removed. They might be about three inches by three and a half in superficial extent. The external integuments were replaced, and re-united over the wound. On placing my hand on the head, I felt that the skull was absent over the organs of Self-Esteem and Love of Approbation; also over a small part of Conscientiousness, and the posterior margin of Firmness. Her father, James Gmapes, Esq. mentioned that before the accident, he considered her rather dull. Her mother did not concur in this opinion, but both agreed that since her recovery, she had been acute, and fully equal to children of her own age in ability. Her brain is favourably developed. Her father said that when the brain was visible, he distinctly saw particular parts of

¹ *Annals of Phrenology*, No. 1. Boston, U. S., Oct. 1833, p. 37.

² *Medico-Chirurgical Review*, No. 46. p. 366. Oct. 1835.

it move when the child was agitated by particular feelings.¹

A very striking argument in favour of the doctrine that the brain is the organ of the mind, is found in the numerous cases in which changes of character have been produced by injuries inflicted on the head. In this way the action of the brain is sometimes so much altered, that high talents are subsequently displayed where mediocrity or even extreme dulness existed before ; in other instances, the temper from being mild and amiable becomes irritable and contentious ; while in others, again, it occasionally happens (in consequence of the injury depressing instead of exalting the tone of the brain), that talents formerly enjoyed are obscured or lost. Dr Gall refers to a case reported by Hildanus, of a boy ten years old, a portion of whose skull was accidentally driven in ; nothing was done to remedy the injury, and the boy, who had previously given promise of excellent parts, became altogether stupid, and in that condition died at the age of forty. He adds a similar case of a lad whose intellectual vivacity was destroyed by cerebral disease accompanied with fever.² The aeronaut Blanchard had the misfortune to fall upon his head, and thenceforward his mental powers were evidently feeble ; after death Dr Gall found his brain diseased.³

Even in the *Edinburgh Review*, where the dependence of the mind upon the brain was formerly held to be exceedingly questionable,⁴ the doctrine is now admitted in all its latitude. "Almost from the first casual inspection of animal bodies," says a writer in No. 94, "the brain was regarded as an organ of primary dignity, and, more particularly in the human subject, the seat of thought and feeling, the centre of all sensation, the messenger of intellect, the presiding organ of the bodily frame." "All this superiority (of man over the brutes), all these faculties which elevate and dig-

¹ See a more particular report of this case in the present volume, page 366-7.

² Gall, ii. p. 172.

³ Id. p. 173.

⁴ See No. 48. Article 10 ; also No. 88, cited below.

nify him, this reasoning power, this moral sense, these capacities of happiness, these high aspiring hopes, are *felt*, and *enjoyed*, and *manifested*, by means of his superior nervous system. Its injury weakens, its imperfection limits, its destruction (humanly speaking) ends them."

More recently one of the most esteemed medical journals, viz., *The British and Foreign Medical Review*, says, "We must reiterate our decided conviction that the proposition, that the brain is the organ of the mind, forms peculiarly a principle of phrenological science, and that, however general the assent yielded to the same in the present day, even by parties who would disdain to be considered phrenologists, it is not the less a principle strictly phrenological. Gall was the first who interrogated nature, in all her departments, to ascertain the fallacy or soundness of the principle in question; and he was the first successfully to investigate certain facts that had seemed to militate against the proposition, and to show their entire accordance with the general rule. Hence we conceive, that whoever admits the function of the brain to be to develop the attributes of the conscious principle, is, *pro tanto*, a phrenologist, and a disciple of Gall. In fine, Phrenology, as a science, has, in our estimation, established, by the method of induction, the soundness of its first principle, that *the brain is the organ of the mind*."¹

Besides referring to these facts and authorities, I may remark, that consciousness localizes the mind in the head, and gives us a full conviction that it is situated there; but consciousness does not reveal what substance is in the interior of the skull. It does not tell whether the mind occupies an airy dome, a richly furnished mansion, one apartment, or many; or in what state or condition it resides in its appointed place. It is only on opening the head that we discover that the skull incloses the brain; and then, by

¹ The objection that this doctrine leads to Materialism is considered in vol. ii., page 407.

Additional evidence that the brain is the organ of the mind will be found in the Appendix, No. I.

an act of the understanding, we infer that the mind must have been connected with it in its operations.

It is worthy of observation also, that the popular notions of the independence of the mind on the body are modern, and the offspring of philosophical theories that have sprung up chiefly since the days of Locke. In Shakspeare, and our older writers, the word "brain" is frequently used as implying the mental functions ; and, even in the present day, the language of the vulgar, which is less affected by philosophical theories than that of polite scholars, is more in accordance with nature. A stupid person is vulgarly called a numbskull, a thick-head ; or said to be addle-pated, badly furnished in the upper-story ; while a clever person is said to be strong-headed or long-headed, to have plenty of brains ; a madman is called wrong in the head, touched in the noddle, &c. When a catarrh chiefly affects the head, we complain of stupidity, because we have such a cold in the head.¹

The principle which I have so much insisted on, that we are not conscious of the existence and functions of the organs by which the mind acts, explains the source of the metaphysical notion which has affected modern language, that we know the mind as an entity by itself. The acts which really result from the combined action of the mind and its organs, appear, previously to anatomical and pathological investigation, to be produced by the mind exclusively ; and hence have arisen the neglect and contempt with which the organs have been treated, and the ridicule cast upon those who have endeavoured to shew their importance in the philosophy of mind. After the explanations given above, the reader will appreciate the real value of the following statement by Lord Jeffrey, in his strictures on the second edition of this work, in the 88th number of the *Edinburgh Review*. His words are : " The truth, we do not scruple to say it, is, that there is not the smallest reason for supposing that the mind ever operates through the

¹ Elliotson's *Blumenbach*, p. 66.

agency of any material organs, except in its perception of material objects, or in the spontaneous movements of the body which it inhabits." And, "There is not the least reason to suppose that any of our faculties, but those which connect us with external objects, or direct the movements of our bodies, act by material organs at all : " that is to say, feeling, fancy, and reflection, are acts so purely mental, that they have no connection with organization.

Long before Lord Jeffrey penned these sentences, however, Dr Thomas Brown had written, even in the *Edinburgh Review*, that "memory, imagination, and judgment, may be all set to sleep by a few grains of a very common and simple drug ;" and Dr Cullen, Blumenbach, Dr Gregory, Magendie, and in short all physiological authors of eminence, had published positive statements, that the mental faculties are connected with the brain.

Lord Brougham also, in his *Discourse of Natural Theology*, argues in favour of the mind's independence of matter in this life, and adduces in support of his position the phenomena of dreaming, and the allegation that "unless some unusual and violent accident interferes, such as a serious illness or a fatal contusion, the ordinary course of life presents the mind and the body running courses widely different, and in great part of the time in opposite directions." (P. 120.) But Mr Stewart has furnished a satisfactory answer to this remark. "In the case of old men," says he, "it is generally found that a decline of the faculties keeps pace with the decay of bodily health and vigour. The few exceptions that occur to the universality of this fact, only prove that there are some diseases fatal to life, which do not injure those parts of the body with which the intellectual operations are more immediately connected."¹ Lord Brougham, moreover, is glaringly inconsistent with himself. He first maintains that the mind is wholly independent of the body, and then admits that "a serious illness" is capable of impairing its

¹ *Outlines of Moral Philosophy*, p. 233.

power. Yet how, on his hypothesis, can it be affectable by this any more than by the slightest disease?

It is a popular opinion, that, in pulmonary consumption, and other lingering diseases attended with waste of the body, the mind nevertheless continues to act with entire vigour up to the very day or hour of dissolution. This notion, if true, would militate against the doctrine of the mind being affected by the state of the organs; but it is really unfounded. There is a difference between derangement of an organ and mere weakness in its functions. In pulmonary consumption the lungs alone are disorganized;—the brain and other organs, remaining entire in their structure, are sound although weakened in their functions. The mind in such patients, therefore, does not become disordered; but its vigour is unquestionably impaired. In the case of the patient's legs, the bones and muscles remaining entire, he can walk: In health, however, he could have accomplished a journey of many miles without fatigue, whereas he cannot in disease do more than cross his bed-room. It might certainly be said that he could *walk* to the last, but it could not with truth be maintained that his power of perambulation was as great at his death as in health; and so it is with the brain and the mind.

What, then, does the proposition that the brain is the organ of the mind imply? Let us take the case of the eye as somewhat analogous. If the eye be the organ of vision, it will be conceded, first, That sight cannot be enjoyed without its instrumentality; secondly, That every act of vision must be accompanied by a corresponding state of the organ, and, *vice versa*, that every change of condition in the organ must influence sight; and, thirdly, That the perfection of vision will be in relation to the perfection of the organ. In like manner, if the brain be the organ of the mind, it will follow that the mind does not act in this life independently of its organ—and hence, that every emotion and judgment of which we are conscious, is the result of the mind and its organ acting together; secondly, that every mental affection

must be accompanied by a corresponding state of the organ, and, *vice versa*, every state of the organ must be attended by a certain condition of the mind ; and, thirdly, that the perfection of the manifestations of the mind will bear a relation to the perfection of its organ. These propositions appear to be incontrovertible, and to follow as necessary consequences from the simple fact that the mind acts by means of organs. But if they be well-founded, how important a study does that of the organs of the mind become ! It is the study of the mind itself, in the only condition in which it is known to us ; and the very fact that in past ages the mind has been studied without reference to organization, accounts for the melancholy truth, that, independently of Phrenology, no mental philosophy suited to practical purposes exists.

Holding it then as established by the evidence of the most esteemed physiologists, and also by observation, that the brain is the organ of the mind, and that the state of the brain influences that of the mental powers, the next question which presents itself is, Whether the mind in *every act* employs the *whole* brain as one organ, or whether separate mental faculties are connected with distinct portions of the brain as their respective organs ? The following considerations may throw light on this question.

1st, In all ascertained instances, different functions are never performed by the same organ, but the reverse ; each function has an organ for itself : the stomach, for instance, digests food, the liver secretes bile, the heart propels the blood, the eyes see, the ears hear, the tongue tastes, and the nose smells. Nay, on analyzing these examples, it is found that wherever the function is compound, each element of it is performed by means of a distinct organ : thus, to accomplish the lingual duties, there is one nerve whose office is to move the tongue, another nerve whose duty it is to communicate the ordinary sense of feeling to the tongue, and a third nerve which conveys the sensation of taste. A similar combination of nerves takes place in the hands, arms, and

other parts of the body which contain voluntary muscles : one nerve gives motion, another bestows feeling, while a third conveys to the mind a knowledge of the state of the muscle ; and, except in the case of the tongue, all these nerves are blended in one common sheath.

In the economy of the human frame, there is no ascertained example of one nerve performing two functions, such as feeling and communicating motion, or seeing and hearing, or tasting and smelling. The spinal marrow consists of three double columns : the anterior column of each lateral division is for motion, the posterior for sensation, and the middle for respiration.¹ In the case of the brain, therefore, analogy would lead us to expect, that if reasoning be an act essentially different from loving or hating, there will be one organ for reasoning, another for loving, and a third for hating.

*2dly,*² It is an undisputed truth, that the various mental powers of man appear in succession, and, as a general rule, that the reflecting or reasoning faculties are those which arrive latest at perfection. In the child, the emotions of fear and of love appear before that of veneration ; and the capacity of observing the existence and qualities of external objects arrives much sooner at maturity than that of abstract reasoning. Daily observation shews that the brain undergoes a corresponding change ; whereas we have no evidence that the immaterial principle varies in its powers from year to year. If every faculty of the mind be connected with the whole brain, this successive development of mental powers is utterly at variance with what we should expect *a priori* ; because, if the general organ is fitted for manifesting with success one mental faculty, it ought to be equally so for manifesting all. On the contrary, observation shews that dif-

¹ The function of the middle column is disputed, but the connection of the others with sensation and motion is admitted by the best physiologists.

² Most of the following arguments are taken from Dr Andrew Combe's *Observations on Dr Barclay's Objections to Phrenology*, published in the *Transactions of the Phrenological Society* (Edinburgh, 1824), page 413.

ferent parts of the brain are really developed at different periods of life, corresponding with the successive evolution of the faculties. In infancy, according to Chaussier, the cerebellum forms one-fifteenth of the encephalic mass, and, in adult age, from one-sixth to one-eighth ; its size being thus in strict accordance with the energy of the sexual propensity, of which it is the organ. In childhood, the middle part of the forehead generally predominates ; in later life, the upper lateral parts become more prominent—which facts also are in strict accordance with the periods of unfolding of the observing and reasoning powers.

3dly, Genius is almost always partial, which it ought not to be if the organ of the mind were single. A genius for poetry, for mechanics, for drawing, for music, or for mathematics, sometimes appears at a very early age in individuals who, in regard to all other pursuits, are mere ordinary men, and who, with every effort, can never attain to any thing above mediocrity.

4thly, The phenomena of dreaming are at variance with the supposition of the mind manifesting all its faculties by means of a single organ ; while they are quite consistent with, and explicable by, that of a plurality of organs. In dreaming, the mind experiences numerous vivid emotions,—such as fear, anger, and affection,—arising, succeeding one another, and departing, without control from the intellectual powers ; or it is filled with a thousand varied conceptions, sometimes connected and rational, but more frequently disjointed and absurd, and all differing widely from the waking operations of the mind, in wanting consistency and sense. These phenomena harmonize remarkably with the doctrine of a variety of faculties and organs, some of which, being active, communicate those disordered ideas and feelings that constitute a dream, while the repose of others permits the disordered action which characterizes the pictures formed by the fancy in sleep.

Were the organ of mind single, it is clear that all the faculties should be asleep or awake to the same extent at the

same time ; or, in other words, that no such thing as dreaming could take place.

5thly, The admitted phenomena of partial idiocy and partial insanity, are so plainly and strongly in contradiction to the notion of a single organ of mind, that Pinel himself, no friend to Phrenology, asks if they can be reconciled with such a conception.

Partial idiocy is that state in which an individual manifests one or several powers of the mind with an ordinary degree of energy, while he is deprived to a greater or less extent of the power of manifesting all the others. Pinel, Haslam, Rush, Esquirol, and, in short, every writer on insanity, speak of the partial development of certain mental powers in idiots ; and Rush, in particular, alludes not only to the powers of intellect, but also to the partial possession of the moral faculties. Some idiots, he observes, are as remarkable for correct moral feelings as some great geniuses are for the reverse. Foderé, in his *Traité du Goitre et de la Crétinisme*, thus speaks, p. 133 :—" It is remarked, that, by an *inexplicable singularity*, some of these individuals (cretins), endowed with so weak minds, are born with a particular talent for copying paintings, for rhyming, or for music. I have known several who taught themselves to play passably on the organ and harpsichord ; others who understood, without ever having had a master, the repairing of watches, and the construction of some pieces of mechanism." He adds, that these powers could not be attributed to the intellect, " for these individuals not only could not read books which treated of the principles of mechanics, but *ils étaient deroutés lorsqu'on en parlait, et ne se perfectionnaient jamais.*" It must be observed also, that these unfortunate individuals differ very much in the *kind* as well as quantity of mental power possessed. One, for example, is all kindness and good-nature, another quarrelsome and mischievous ; or one has a lively perception of harmony in music, while another has none. An instance is given by Pinel of an idiot girl who manifested a most wonderful propensity to *imitate*

whatever she heard or saw, but who displayed no intellectual faculty in a perceptible degree, and never attached an idea to any sound she uttered. Dr Rush particularizes one man who was remarkable for his religious feelings, although exceedingly deficient in the other moral sentiments, and in understanding; and, among the cretins, many are to be found who scarcely manifest any other faculty of the mind except Amativeness.

It ought farther to be observed, that the characteristic features of each particular case are strictly permanent. The idiot, who to-day manifests the faculty of Tune, or the feeling of Benevolence, of Veneration, or of Self-esteem, will not to-morrow, or in a year, exhibit a different kind of predominant manifestations. Were deficiency of the brain as a *single* organ the cause of idiocy, these phenomena ought *not* to appear; for, being able to manifest one faculty, it ought, according to the circumstances in which the individual is placed, be equally able to manifest all others whose activity may be required, and thus the character of the idiocy ought to change with every passing event—which it never does. Foderé calls these facts “inexplicable singularities;” and, no doubt, on his theory they truly are so. To the phrenologist, however, they offer no difficulty; for they are in perfect harmony with *his* views. The difference in the *kind* of powers manifested in cases of partial idiocy—between the capacity for mechanics, for instance, and the sentiment of Veneration, Self-esteem, or Benevolence—is as great as between the sensations excited by a sound and an odour. To infer, therefore, that one organ serves for the manifestation of all these faculties, is really much the same, in point of logic, as to suppose all the external senses to have only one organic apparatus, in spite of the fact of many individuals being blind who are not deaf, or deaf and not blind.

Partial insanity, or that state in which one or more faculties of the mind are deranged, while the integrity of the remainder is unaffected, is known by the name of monomania,

and appears equally with the former to exclude the possibility of one organ manifesting all the mental faculties; for the argument constantly recurs, that if the organ be sufficiently sound to manifest one faculty in its perfect state, it ought to be equally capable of manifesting all—which, however, is known to be in direct opposition to fact. On this subject, I shall confine myself to the statement of a single instance, merely in illustration.

Of *folie raisonnée* Pinel thus speaks :—"Hospitals for the insane are never without some example of mania marked by acts of extravagance, or even of fury, with a kind of judgment preserved in all its integrity, if we judge of it by the conversation: the lunatic gives the most just and precise answers to the questions of the curious; no incoherence of ideas is discernible; he reads and writes letters as if his understanding were perfectly sound; and yet, by a singular contrast, he tears in pieces his clothes and bed-covers, and always finds some plausible reason to justify his wandering and his fury. This sort of mania is so far from rare, that the vulgar name of *folie raisonnée* has been given to it."—P. 93. Here, again, the difficulty recurs of reconciling such facts with the idea of one organ executing all the functions of the mind. How comes that organ to be able to manifest in a sound state several but not *all* of the faculties?

6thly, Besides the phenomena of idiocy and insanity, there is another class of facts (to which, however, I shall at present only allude) equally at variance with the supposition of a single organ of the mind—viz. partial injuries of the brain, which are said to have occurred without injury to the intellectual faculties. I merely observe, that if every part of the brain is concerned in every mental act, it appears strange that all the processes of thought should be manifested with *equal effect*, when a great part of the brain is injured or destroyed, as when its whole structure is sound and entire. If the fact were really as here stated, the brain would form an exception to the general laws of organic structure; for although a part of the lungs may be sufficient to maintain

respiration, or a part of the stomach to execute digestion, in such a way as to support life, there is no instance in which these functions have been as successfully performed by impaired organs, as they would have been by lungs and a stomach in their natural state of health and activity. The phrenologists are reduced to no strait to reconcile the occurrence of such cases with their system ; for as soon as the principle of a plurality of organs is acknowledged, the facts admit of an easy and satisfactory explanation.

7thly, Daily experience may satisfy us that the mind manifests a plurality of faculties by a plurality of organs. An individual receives an affront in a venerable assembly, and the following mental states may present themselves simultaneously. He feels anger, yet he feels awe or respect for the persons present ; he uses reflection and restrains his wrath. These states of mind may continue to co-exist for hours. A single organ could not serve to give consciousness of indignation, to feel awe, and to practise restraint, all at the same moment ; but this is quite practicable by a plurality of organs. Indeed we are able at the same moment to manifest opposite emotions in our actions, if we employ different instruments in doing so. A man may pity the oppressed, and at the same instant burn with indignation against the oppressor. An artist may execute a drawing, and at the same instant sing a song. If one cannot compose poetry and calculate logarithms at the same moment, it is because some of the organs required in the one operation are necessary also in the other, and the same organs cannot perform two duties at once.

From the preceding considerations it appears, that any theory founded upon the notion that the brain is a single organ, is uniformly at variance with much that is ascertained to be fact in the philosophy of mind ; and that, on the other hand, the principle of a plurality of organs, while it satisfactorily explains *most* of the facts, is consistent with *all* of them. Its truth is thus almost demonstrated, not by far-fetched or pretended facts which few can verify, but by

facts which daily "obtrude themselves upon the notice of the senses." This principle, indeed, bears upon its face so much greater a degree of probability than the opposite view, that it has long since forced itself on the minds of many inquirers. "The brain is a very complicated organ," says Bonnet, "or rather an assemblage of very different organs;"¹ Tissot contends that every perception has different fibres;² and Haller and Van Swieten were of opinion that the internal senses occupy, in the brain, organs as distinct as the nerves of the external senses.³ Cabanis entertained a similar notion;⁴ and so did Prochaska. Cuvier says, that "certain parts of the brain in all classes of animals are large or small, according to certain qualities of the animals;"⁵ and the same eminent author admits that Gall's doctrine of the functions of the brain is nowise contradictory to the general principles of physiology.⁶ According to Tiedemann, "the comparative study of the actions and organization of the brain in different animals will dispel the cloud from o'er the functions devolving on its separate parts;" and he adds, that "it is a general truth, recognised at present, that the cerebral functions of animals become more numerous and diversified, according as their brain and nervous system possess a more complicated structure."⁷ Soemmering trusts that we shall one day find the particular seats of the different orders of ideas. "Let the timid, therefore, take courage," says Dr Georget, "and after the example of such high authorities, fear not to commit the unpardonable crime of innovation, of passing for cranioscopists, in admitting the plurality of the faculties and the mental organs of the brain, or at least in daring to examine the subject."⁸ Foderé himself, a very zealous opponent of

¹ *Palingénésie*, i. 334. ² *Œuvres*, iii. 33. ³ Van Swieten, i. 454.

⁴ *Rapports du Physique et du Moral de l'Homme*, 2de edit. i. 233-4.

⁵ *Anatomie Comparée*, tom. ii.

⁶ *Rapport Historique sur les Progrès des Sciences Naturelles*, &c. p. 193.

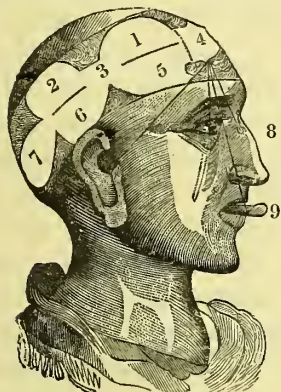
⁷ *Anatomy of the Fœtal Brain*, Bennett's translation, p. 4.

⁸ *Physiologie du Système Nerveux*, i. 126.

Phrenology, after recapitulating a great many reasons similar to those given above, which had been employed by physiologists antecedent to Drs Gall and Spurzheim, for believing in a plurality of mental organs, is constrained to admit, that "this kind of reasoning has been employed by the greater number of anatomists, from the time of Galen down to our own day, and even by the great Haller, who experienced a necessity for assigning a function to each department of the brain." Pinel also (in the article *Manie* in the *Encyclopédie Méthodique*), after relating some cases of partial insanity, asks, whether all this collection of facts can be reconciled with the opinion of a single faculty and a single organ of the understanding? Even in the *Edinburgh Review* (No. 94), Sir Charles Bell is commended for "attacking the common opinion, that a separate sensation and volition are conveyed by the same nerves," and for asserting "the different functions of different parts of the cerebrum and cerebellum."

It is not surprising, therefore, that reflecting men were early led to imagine that particular mental powers must be connected with particular parts of the brain; and accordingly, before the eighteenth century, when modern metaphysics sprang up, we find traces of this opinion common, not only among eminent anatomists and physiologists, but among authors on human nature in general. Burton, in his *Anatomy of Melancholy*, published in 1621, says, "Inner senses are three in number, so called because they be within the brain-pan, as common sense, phantasie, and memory:" of common sense he says, that "the fore part of the brain is his organ and seat;" of phantasie or imagination, which some call æstivative or cogitative, that "his organ is the middle cell of the brain;" and of memory, that "his seat and organ is the back part of the brain." This was the account of the faculties given by Aristotle, and repeated, with little variation, by the writers of the middle ages. In the thirteenth century, a head divided into regions according to these opinions, was designed by Albert the Great, bishop

of Ratisbon; and another was published by Petrus Montagnana, in 1491.¹ One published at Venice, in 1562, by Ludovico Dolce, in a work upon strengthening and preserving the memory, is here represented:—



REFERENCES TO FIGURE.

- 1 Fantasia.
- 2 Cogitativa.
- 3 Vermis.
- 4 Sensus Communis.
- 5 Imagina.
- 6 Æstimativa.
- 7 Memorativa.
- 8 Olfactus.
- 9 Gustus.

In the British Museum is a chart of the universe and the elements of all sciences, in which a large head so delineated is conspicuous. It was published at Rome so lately as 1632.²

If, then, so many physiologists and others have been led to believe in a plurality of mental organs, by a perception of the contradiction and inconsistency existing between the phenomena and the supposition of the whole brain being the single organ of the mind, I cannot err much in saying, that the latter notion, far from being self-evident, appears so improbable as to require even stronger facts to prove it than the opposite view; and that the presumptions are all in favour of a plurality of mental faculties manifesting themselves by means of a plurality of organs.

I have now endeavoured to shew, first, That the ridicule, opposition, and abuse with which Phrenology was treated

¹ Gall, *Sur les Fonctions du Cerveau*, 8vo, Paris, 1822-1825, ii. 354-5. This work is a reprint of the physiological portion of the *Anatomie et Physiologie du Système Nerveux*, 4to, partly by Gall and Spurzheim, and partly by Gall alone.—See also *Phren. Journ.*, ii. 378.

² Elliotson's *Blumenbach*, p. 205.

at its first announcement, and its continued rejection by men of established reputation, whose opinions it contradicts, afford no presumption that it is untrue, for many great discoveries have met with a similar fate:—Secondly, That we are really unacquainted with the mind, as an entity distinct from the body, and that it is owing to the mind not being conscious of its organs, that metaphysicians have supposed their feelings and intellectual perceptions to be emanations of pure spirit, whereas they are the results of mind and its organs acting in combination:—Thirdly, That the greatest anatomists and physiologists admit the brain to be the organ of the mind, and common feeling localizes thought in the head, although it does not inform us what substance occupies the interior of the skull; farther, that the very idea of the mind having an organ, implies that every mental act is accompanied with an affection of the organ, and *vice versa*, so that the true philosophy of the mind cannot be discovered without taking the influence of the organs into account at every step:—And, fourthly, That the analogy of the nerves of feeling and motion, of the five senses, and of other parts of the body, all of which perform distinct functions by separate organs—also the successive appearance of the faculties in youth, and the phenomena of partial genius, of dreaming, of partial idiocy, of monomania, and of partial injuries of the brain—furnish presumptive evidence that the mind manifests a plurality of faculties by means of a variety of organs, and exclude the supposition of a single power operating by a single organ. The next inquiry, therefore, naturally is, What effect does the condition of the organs produce on the state of the mind? Is it indifferent whether the organs be large or small—well or ill constituted—in health or in disease?

I submit the following facts to prove that, in other departments of organized nature, size in an organ, other conditions being the same, is a measure of power in its func-

tion; *i. e.* that small size indicates little power, and large size much power, when all other circumstances are alike.¹

In our childhood, we have all been delighted with the fable of the old man who shewed his sons a bundle of rods, and pointed out to them how easy it was to snap one asunder, and how difficult to break the whole. The principle involved in this simple story pervades all material substances; for example, a muscle is composed of a number of fleshy fibres, and hence it follows that each muscle will be strong in proportion to the number of fibres which enter into its composition. If nerves be composed of parts, a nerve which is composed of twenty parts must be more vigorous than one which consists of only one. To render this principle universally true, however, one condition must be observed—namely, that all the parts compared with each other, or with the whole, shall be of the same quality: for example, if the old man in the fable had presented ten twigs of wood tied up in a bundle, and desired his sons to observe how much more difficult it was to break ten than to sever one; and if his sons, in refutation of this assertion, had presented him with a rod of iron of the same thickness as one twig, and said that it was as difficult to break that iron rod, although single, as his whole bundle of twigs, although tenfold, the answer would have been obvious, that the things compared differed in kind and quality, and that if he took ten *iron* rods, and tried to break them, the difficulty would be as great compared with that of severing one, as the task of breaking ten twigs of wood compared with that of breaking one. In like manner, nerves, muscles, brain, and all other parts of the body, may be sound, or they may be diseased; they may be of a fine structure or a coarse structure; they may be old or young; they may be almost dissolved by the burning heat of a tropical sun, or near-

¹ This subject is fully treated of by Dr Andrew Combe in an Essay on the Influence of Organic Size on Energy of Function, particularly as applied to the Organs of the external Senses and Brain, in the *Phrenological Journal*, vol. iv. p. 161.

ly frozen under the influence of an arctic winter; and it would be altogether irrational to expect the influence of size to stand forth as a fixed energy overruling all these circumstances, and producing effects constantly equal. The strength of iron itself, and adamantine rock, depends on temperature; for either will melt with a certain degree of heat, and at a still higher point they will be dissipated into vapour. The true principle then is, that,—constitution, health, and outward circumstances being the same,—a large muscle, or large nerve, composed of numerous fibres, will act with more force than a small one comprehending few.

In tracing the influence of this law in animated beings, however, we cannot consistently compare one species with another; because in such comparisons other conditions besides size are not the same. It has been stated as an objection to Phrenology, that a bee has no perceptible brain, and that yet it manifests great intelligence. The objector intends that we should infer from this fact, either that man also may manifest the mind without a brain, or at least, that in him, size in the mental organ has no influence on the power of manifestation. But no two creatures can be more unlike than a bee and a man; and it is unsound in philosophy to draw conclusions relative to the one, from facts observed in the other, when we can ascertain the truth by a *direct* investigation of the structure and functions of each by itself. By the same mode of reasoning, we might prove that lungs are not necessary for respiration in man, because some insects, such as the butterfly, the bee, the worm, and the louse, have no lungs, and yet live in air. The power of the Creator is infinite, and he is not limited in his expedients. Although analogy of principle may be traced in his works, yet the same end is often obtained by different means. In insects the blood is aërated by means of tubes, in fishes by means of gills, and in man by means of lungs; and why may not the bee manifest its instincts by a piece of nervous matter modified to suit its nature, and man manifest his mental faculties by a brain?

Again, it is objected that man, the beaver, and the bee, for example, all construct, yet the bee's organ of Constructiveness must be very minute ; and if we compare the imperceptible organ in it with the relative organ in man or the beaver, it is argued that man and the beaver do not excel the bee in art, in proportion to the excess of size in their organs of Constructiveness. But this is an incorrect method of reasoning. The structure of every species of animals is modified to suit its own condition of life. The ox has four stomachs, and the horse only one ; yet both digest the same kind of food. The proper mode of proceeding is, as I have said, to compare, in different individuals of *the same species*, size of particular organs with strength of particular functions (health, age, exercise, and constitution being alike), and then size will be found correctly to indicate power.¹ The more nearly any two species resemble each other, the fitter they become for being profitably compared in their structure and functions ; and hence a reflected light of analogy may be obtained in regard to the laws of the human economy, by studying that of the more perfect of the lower animals. Still, however, we derive only presumptive evidence from this source, and positive proof can be obtained only by direct observations on man himself. This last evidence alone is admitted by phrenologists as sufficient, and on it exclusively their science rests.

In the following observations on the influence of size in the organs upon the power of function, I intend, where different species of animals are compared, merely to illustrate the doctrine in a popular manner, and not to prove it by rigid evidence : For that evidence I confine myself to observations on individuals of the same species.

It will scarcely be disputed, that the strength of the bones

¹ See *Phrenological Journal*, vol. ix. p. 515 ; also vol. x. p. 27, where will be found an ample " Reply to an Objection to Phrenology, founded on a Comparison of the Brains of Animals of different Species—and to the Allegation that certain Animals are altogether destitute of Brain. By Charles Caldwell, M. D."

is always, other circumstances being equal, proportioned to their size. So certain is this, that when nature requires to give strength to a bone in a bird, and, at the same time, to avoid increasing the weight of the animal, the bone is made of large diameter, but hollow in the middle; and, on mechanical principles, the increase of volume adds to its strength. That the law of size holds in regard to the blood-vessels and heart, is self-evident to every one who knows that a tube of three inches' diameter will transmit more water than a tube of only one inch. And the same may be said in regard to the lungs, liver, kidneys, and every other part. If a liver with a surface of ten square inches can secrete four ounces of bile, it is perfectly manifest that one having a surface of twenty square inches will be able, all other things being equal, to secrete a quantity greater in proportion to its greater size. If this law did not hold true, what would be the advantage of large and capacious lungs over small and confined? There could be none.

The spinal marrow always increases in size at the points where it gives off nerves of sensation and motion most numerous; for example, in the cervical region, where these nerves go off to the upper extremities, and at the lumbar region, where it sends off nerves of sensation and motion to the lower extremities. It is proportionally larger in birds, where it gives off these nerves to the wings, than in the same region in fishes.

Speaking generally, there are two classes of nerves distributed over the body, those of motion and those of sensation or feeling. In motion, the muscle is the essential or chief apparatus, and the nerve is required only to communicate to it the impulse of the will; but in sensation the reverse is the case—the nerve itself is the chief instrument, and the part on which it is ramified is merely a medium for putting it into relation with the specific qualities which it is destined to recognise.

To illustrate the effect of size on the strength of the functions of these nerves, the following cases may be adduced:

they are stated on the authority of Desmoulins, a celebrated French physiologist, when no other name is given. The horse and ox have much greater muscular power, and much less intensity of sensation, in their limbs than man ; and, in conformity with the principle now under discussion, the nerves of motion going to the four limbs in the horse and ox are at least one-third more numerous than the nerves of sensation going to the same parts,—whereas in man, the nerves of motion going to the legs and arms are a fifth or a sixth part fewer than the nerves of sensation distributed on the same parts. In like manner, in birds and reptiles which have scaly skins and limited touch, but vigorous powers of motion, the nerves of sensation are few and small, and the nerves of motion numerous and large. Farther, wherever Nature has given a higher degree of sensation or touch to any particular part than to the other parts of an animal, there the nerve of sensation is invariably increased ; for example, the single nerve of feeling ramified on the tactile extremity of the proboscis of the elephant exceeds in size the united volume of all the muscular nerves of that organ. Some species of monkeys possess great sensibility in the tail, and some species of bats have great sensibility in their wings ; and in these parts the nerves of sensation are increased in size in proportion to the increase of functional power. Birds require to rise in the air, which is a medium much lighter than their own bodies. To have enlarged the size of their muscles would have added to their weight, and increased their difficulty in rising. Nature, to avoid this disadvantage, has bestowed on them large nerves of motion, which infuse a very powerful stimulus into the muscles, and increase the power of flying. Fishes live in water, which has almost the same specific gravity with their bodies. To them Nature has given large muscles, in order to increase their locomotive powers ; and in them the nerves of motion are less. In these instances, Nature curiously adds to the power of motion, by increasing the size of that part of the locomotive apparatus which may be enlarged most conve-

niently for the animal ; but either the muscle or the nerve must be enlarged, otherwise there is no increase of power.

In regard to the external senses, it is proper to observe that each is composed, first, of an instrument or medium on which the impression is made—the eye for example ; and, secondly, of a nerve to conduct that impression to the brain. The same law of size holds in regard to these organs of the senses : a large eye will collect more rays of light, a large ear more vibrations of sound, and large nostrils more odorous particles, than the same organs if small. This is so obvious, that it scarcely requires proof ; yet, as Lord Jeffrey has ridiculed the idea, I may mention that Monro, Blumenbach, Soemmering, Cuvier, Magendie, Georget, and a whole host of other physiologists, support it. Blumenbach, when treating of smell, says : “ While animals of the most acute smell have the nasal organs most extensively evolved, precisely the same holds in regard to some barbarous nations. For instance, in the head of a North American Indian (represented in one of his plates), the internal nostrils are of an extraordinary size,” &c. And again : “ The nearest to these in point of magnitude, are the internal nostrils of the Ethiopians, from among whom I have eight heads, very different from each other, but each possessing a nasal organ much larger than that described by Soemmering. These anatomical observations accorded with the accounts given by most respectable travellers, concerning the wonderful acuteness of smell possessed by those savages.” In like manner, Dr Monro *primus*—no mean authority,—when treating, in his *Comparative Anatomy*, of the large organ of smell in the dog, says : “ The sensibility (of smell) seems to be increased in proportion to the surface ; and this will be also found to take place in all the other senses.” The same author states, “ that the external ear in different quadrupeds is differently framed, but always calculated to the creature’s manner of life ; thus hares and such other animals as are daily exposed to insults from beasts of prey, have large ears directed backwards, their eyes warning them of danger before.”

These observations apply to the external portion of the organs of sense, but the inner parts or nerves are not less subject to the same law of size. Georget, an esteemed physiological writer, in treating of the nerves, affirms, that “the volume of these organs bears a uniform relation, in all the different animals, to the extent and force of the sensations and movements over which they preside; thus, the nerve of smell in the dog is larger than the five nerves of the external senses in man.” The surface of the mucous membrane of the ethmoidal bone, on which the nerve of smell is ramified, is computed to extend in man to twenty square inches,—in the seal to 120. The nerve of smell is small in man and in the monkey tribe; scarcely, if at all, perceptible in the dolphin; large in the dog and the horse; and altogether enormous in the whale and the skate, in which it actually exceeds in diameter the spinal marrow itself. In the mole it is of extraordinary size, while the optic nerve is very small. In the eagle the reverse is observed, the optic nerve being very large, and the olfactory small. Most of the quadrupeds excel man in the acuteness of their hearing, and accordingly it is a fact, that the auditory nerve in the sheep, the cow, the horse, &c., greatly exceeds the size of the same nerve in man. In some birds of prey, which are known to possess great sensibility of taste, the palate is found to be very copiously supplied with nervous filaments.

But the organ of sight affords a most interesting example of the influence of size. The office of the eye-ball is to collect the rays of light. A large eye, therefore, will take in more rays of light, or, in other words, command a greater sphere of vision, than a small one. But to give intensity or power to vision, the optic nerve also is necessary. Now, the ox placed upon the surface of the earth is of a heavy structure and ill fitted for motion, but he has a large eye-ball, which enables him to take in a large field of vision without turning; yet, as he does not require very keen vision to see his provender, on which he almost treads, the optic nerve

is not large in proportion to the eye-ball. The eagle, on the other hand, by ascending to a great height in the air, enjoys a wide field of vision from its mere physical position. It looks down from a point over an extensive surface. It has no need, therefore, of a large eye-ball to increase artificially its field of vision, and accordingly the ball of its eye is comparatively small. But it requires, from that height, to discern its prey upon the surface of the earth; and not only is the distance great, but the prey often resembles in colour the ground on which it rests. To the eagle, therefore, great intensity of vision is necessary. Accordingly, in it the optic nerve is increased to an enormous extent. Instead of forming a single membrane only *lining* the inner surface of the posterior chamber of the eye, as in man and animals which do not require extraordinary vision,—and consequently only equalling in extent the sphere of the eye to which it belongs,—the retina or expansion of the nerve of vision in these quick-sighted birds of prey is found to be composed of a great number of folds, each hanging loose into the eye, and augmenting, in a wonderful degree, not only the extent of nervous surface but the mass of nervous matter, and giving rise to that intensity of vision which distinguishes the eagle, falcon, hawk, and similar animals.¹ In the case of the senses, then, we plainly see, that when Nature designs to increase their power, she affects her purpose by augmenting the size of their organs.

Let us now attend to the brain. Were I to affirm that difference of size in the brain produces no effect on the vi-

¹ In December 1836, Dr G. I. Berwick, of the Honourable the East India Company's Service, who had studied natural history practically in Bengal, mentioned to me that when he was dissecting a dead leopard, in an out-house that had only one opening, the door,—a great number of hawks, kites, and adjutants assembled, coming from great distances, (for he had seen none of them *in the neighbourhood* before he began the dissection,) and waited till he threw out the carcass, which they devoured. He considered them to have been led by the sense of smell; and he regards this sense, as well as that of vision, to be powerful in these animals. He had not examined the size of the olfactory nerve in them.

gour of its functions,—or that a small brain, in perfect health, and of a sound constitution, is equal in functional power and efficiency to a large one in similar condition,—would the reader, after the evidence which has been laid before him of the influence of size in increasing the power of function in other parts of the body, be disposed to credit the assertion? He would have the utmost difficulty in believing it, and would say that if such were the fact, the brain must form an exception to a law which appears general over organized nature; and yet the phrenologists have been ridiculed for maintaining that the brain does not form an exception to this general law, but that in it also, vigour of function is in proportion to size, other conditions being alike. I shall proceed to state some direct evidence in proof of this fact; but the reader is requested to observe that I am here expounding only general principles in an introductory discourse. The conditions and modifications under which these principles ought to be applied in practice, will be stated in a subsequent chapter.

First, The brain of a child is small, and its mind weak, compared with the brain and mental faculties of an adult.

Secondly, Small size in the brain is an invariable cause of idiocy. Phrenologists have in vain called upon their opponents to produce a single instance of the mind being manifested vigorously by a very small brain.

Dr Gall has laid it down as a fact to which there is no exception, that where the brain is so small that the horizontal circumference of the head does not exceed thirteen or fourteen inches, idiocy is the necessary consequence. "Complete intelligence," he remarks, "is absolutely impossible with so small a brain; in such cases idiocy, more or less complete, invariably occurs, and to this rule no exception either has been, or ever will be found."¹ To the same effect, Dr Spurzheim, in his work on Insanity, says:—"We are very well aware that a great number of facts repeated under various circumstances are necessary before we

¹ *Sur les Fonctions du Cerveau*, ii. 330.

can draw a general conclusion ; but with respect to idiotism from birth, we have made such a number of observations in various countries, that we have no hesitation in affirming that a too small brain is unfit for the manifestation of the mind. I beg to remark, that I do not say that idiotism is the attribute of a too small brain only. Idiotism may be the result of different causes, one of which is a too small brain. We are convinced from observation, that the laws of nature are constant ; and if we continually observe that the same phenomenon takes place under the same circumstances, we consider our conclusion as certain, till experience shews the contrary. No one, then, has the right to maintain that an inference is too hastily drawn because he has not made a sufficient number of observations. It is his duty to shew facts which prove the contrary, if he intend to deny the inference." In the *Journal of the Phrenological Society of Paris* for April 1835, Dr Voisin reports observations made upon the idiots under his care at the Parisian Hospital of Incurables in order to verify the assertion of Gall in the passage above quoted ; and mentions that he found it substantiated by every one of his cases. In the lowest class of idiots, where the intellectual manifestations were null, the horizontal circumference, taken a little higher than the orbit, varied from eleven to thirteen inches, while the distance from the root of the nose backwards over the top of the head to the occipital spine was only between eight and nine inches. When the size varied from fourteen to seventeen inches of horizontal measurement, and eleven or twelve in the other direction, glimpses of feelings and random intellectual perceptions were observable, but without any power of attention or fixity of ideas. Lastly, when the first measurement extended to eighteen or nineteen inches, although the head was still small, the intellectual manifestations were regular enough, but deficient in intensity. In a full-sized head, the first measurement is equal to twenty-two inches, and the second to about fourteen inches. So large was the

head of Spurzheim, that even on the *skull*, these two measurements amount to $22\frac{1}{4}$ and $13\frac{6}{10}$ inches respectively. Those who deny the influence of size of the brain on the manifestations of the mind, should reconcile these facts with their own views, before they denounce Phrenology as at variance with nature, and maintain that, so far as vigour of mind is concerned, it is indifferent whether the head be large or small.

Even Pinel, who will not be suspected of any desire to favour Phrenology, admits, that "it appears that idiocy from birth always accompanies an original defect of the brain, that it cannot undergo any sort of change, and that its duration is the same with that of the physical cause from which it arises."¹ Dr Gall has represented, in the Atlas of his quarto work (Plates 18, 19, and 20), three very small heads of idiots; and similar engravings are given by Pinel. A striking case of idiocy in conjunction with a diminutive brain, will be found in the 42d number of *The Phrenological Journal*.² An engraving of the head is here subjoined, in contrast with a sketch of that of the celebrated Hindoo reformer Rammohun Roy.

IDIOT, aged 20.



RAMMOHUN ROY.



¹ *Dict. des Sciences Med.* tom. i. p. 313, article *Alienation*.

² Vol. ix. p. 126.

Dr Elliotson mentions a cast of the head of a male idiot, aged eighteen years, which he received from Dr Formby of Liverpool, and subsequently presented to the London Phrenological Society. It is only 16 inches in circumference, and $7\frac{3}{4}$ inches from ear to ear over the vertex. The cerebrum weighed only 1 lb. $7\frac{1}{2}$ oz., and the cerebellum but 4 ounces.¹ In a case reported by Mr Richard Cull,² the circumference is $14\frac{1}{4}$ inches, and the distance from ear to ear over the vertex $9\frac{1}{4}$.

Deficiency of size in the brain is not, however, the only cause of idiocy. A brain may be large and diseased, and mental imbecility may arise from the disease; but, as above shewn, although disease be absent, if the size be very deficient, idiocy will invariably occur.

Thirdly, Men who have been remarkable, not for mere cleverness, but for great force of character, such as Bonaparte, Franklin, and Burns, have had heads of unusual magnitude.

Fourthly, It is an ascertained fact, that nations in whom the brain is large, possess so great a mental superiority over those in whom it is small, that they conquer and oppress them at pleasure. The Hindoo brain, for example, is considerably smaller than the European, and it is well known that a few thousands of Europeans have subdued and keep in subjection millions of Hindoos. The brain of the aboriginal American, also, is smaller than the European, and the same result has been exemplified in that quarter of the world.

Lastly, The influence of size is now admitted by the most eminent physiologists. "The volume of the brain," says Magendie, "is generally in direct proportion to the capacity of the mind. We ought not to suppose, however, that every man having a large head is necessarily a person of superior intelligence; for there are many causes of an augmentation of the volume of the head beside the size of the brain; but it is rarely found that a man distinguished by his mental faculties has not a large head. The only way

¹ Elliotson's *Blumenbach*, p. 199.

² *Phrenological Journal*, xi. 287.

of estimating the volume of the brain, in a living person, is to measure the dimensions of the skull; every other means, even that proposed by Camper, is uncertain.”¹

After quoting the statements of many authors, and detailing the weights of fifty-two European brains examined by himself, Tiedemann² mentions that “the weight of the brain in an adult male European varies between 3 lb. 2 oz. and 4 lb. 6 oz. troy. *The brain of men who have distinguished themselves by their great talents is often very large.* The brain of the celebrated Cuvier weighed 4 lb. 11 oz. 4 dr. 30 gr. troy, and that of the celebrated surgeon Dupuytren weighed 4 lb. 10 oz. troy. *The brain of men endowed with but feeble intellectual powers is, on the contrary, often very small, particularly in congenital idiotismus.*” Here, then, is ample confirmation of the phrenological evidence, and from a source which cannot be considered as biassed in our favour. Tiedemann proceeds—“The female brain is lighter than that of the male. It varies between 2 lb. 8 oz. and 3 lb. 11 oz. *I never found a female brain that weighed 4 lb.* The female brain weighs on an average from four to eight ounces less than that of the male; *and this difference is already perceptible in a new-born child.*” This also corresponds entirely with the long-repudiated statements of the phrenologists, and it is pleasant to see the fact thus broadly admitted.

Tiedemann goes even beyond the phrenologists in his applications of the principle of size being a measure of power. He says, “*There is undoubtedly a very close connexion between the absolute size of the brain and the INTELLECTUAL powers and functions of the mind.*” This is evident from the remarkable smallness of the brain in cases of congenital idiotismus, few much exceeding in weight that of a new-born child. Gall, Spurzheim, Haslam, Esquirol, and others, have

¹ *Compendium of Physiology*, Milligan's Translation, p. 104, edit. 1826.

² On the Brain of the Negro compared with that of the European and the Ourang-Outang. By Professor Tiedemann, of Heidelberg. (*Philosophical Transactions* for 1836. Part ii.)

already observed this, which is also confirmed by my own researches. The brain of very talented men is remarkable on the other hand for its size." (P. 502). Here certainly is ample corroboration of the influence of organic size on mental power; but Tiedemann has fallen into the very serious error of taking absolute size of the brain as a measure of *intellectual* power only; whereas it indicates, as might be expected *à priori*, absolute *mental* power, without determining whether that power lies in extent of intellect, in strength of moral feeling, or in the force of passion or affection. A brain of four pounds' weight may be large in the anterior lobe, and smaller in the middle and posterior lobes; or its chief size and weight may be in the posterior lobes, and the anterior portions be actually small. In both cases Tiedemann would infer equal "intellectual" power; whereas the phrenologist would perceive at a glance, that in the former the intellectual ability would far preponderate, while in the latter the great power of mind would consist entirely in intensity of feeling, and the intellect, properly so called, be rather weak than strong.

The following passage, which occurs in the 94th Number of the *Edinburgh Review*, also implies, not only that different parts of the nervous system, including the brain, have different functions, but that an increase of volume in the brain is marked by some addition to, or *amplification* of, the powers of the animal. "It is in the nervous system alone that we can trace a gradual progress in the provision for the subordination of one (animal) to another, and of all to man; and are enabled to associate every faculty which gives superiority with some addition to the nervous mass, even from the smallest indications of sensation and will, up to the highest degree of sensibility, judgment, and expression." "The brain is observed progressively to be improved in its structure, and, with reference to the spinal marrow and nerves, augmented in volume more and more, until we reach the human brain—each addition being marked by some addition to, or amplification of, the powers of the animal—until in man

we behold it possessing some parts of which animals are destitute, and wanting none which theirs possess."

There is here, then, pretty strong evidence and authority for the assertion, that the brain does not form an exception to the general law of organized nature, that, other conditions being equal, size of organ is a measure of power of function.¹

The circumstances which *modify* the effects of size demand next to be considered. These are, constitution, health, exercise, excitement from without, and, in some cases, the mutual influence of the organs.

The question naturally presents itself, Do we possess any index to constitutional qualities of brain?

There are some constitutional qualities² which can be judged of only by knowing the qualities of the stock, or race, from which the individual under examination is descended. I have observed a certain feebleness in the brain, indicating itself by weakness of mind, without derangement, in some individuals born in India of an English father and Hindoo mother. The tinge of colour and the form of the features indicate this descent. I have noticed feebleness and sometimes irregularity of action in the brains of individuals, not insane, but who belonged to a family in which insanity abounded. I do not know any external physical indication of this condition. The temperaments indicate to a certain extent important constitutional qualities. There are four temperaments, accompanied by different degrees of

¹ It is certified by haters, that the lower classes of the community, who are distinguished for muscular vigour much more than mental capacity, require a smaller size of hat than those classes whose occupations are chiefly mental, and in whom vigour of mind surpasses that of body. But the phrenologist does not compare *intellectual* power with the size of brain in general; and, besides, the hat does not indicate the size of the whole head. The reader will find details on this point in the *Phrenological Journal*, iv. 539, v. 213, and ix. 221.

² See an able Essay "On Quality of Brain as influencing functional Manifestation," by Mr Daniel Noble; *Phren. Journ.* vol. xii. p. 121.

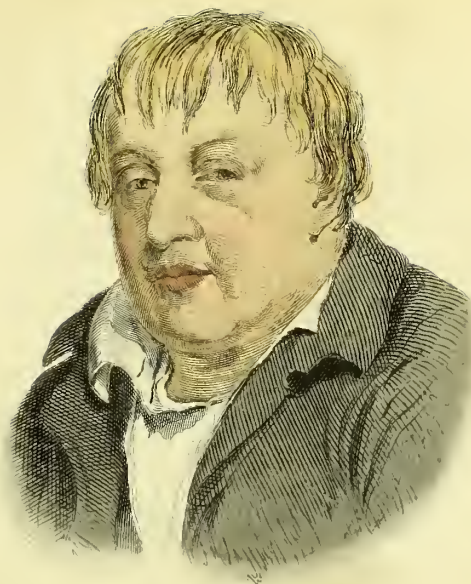
strength and activity in the brain—the *lymphatic*, the *sanguine*, the *bilious*, and the *nervous*. The temperaments are supposed to depend upon the constitution of particular systems of the body : the brain and nerves being predominantly active from constitutional causes, seem to produce the nervous temperament ; the lungs, heart, and bloodvessels being constitutionally predominant, to give rise to the sanguine ; the muscular and fibrous systems to the bilious ; and the glands and assimilating organs to the lymphatic.

The different temperaments are indicated by external signs, which are open to observation. The first, or *lymphatic*, is distinguishable by a round form of the body, softness of the muscular system, repletion of the cellular tissue, fair hair, and a pale skin. It is accompanied by languid vital actions, with weakness and slowness in the circulation. The brain, as part of the system, is also slow, languid, and feeble in its action, and the mental manifestations are proportionally weak.

The second or *sanguine* temperament, is indicated by well defined forms, moderate plumpness of person, tolerable firmness of flesh, light hair inclining to chestnut, blue eyes, and fair complexion, with ruddiness of countenance. It is marked by great activity of the bloodvessels, fondness for exercise, and an animated countenance. The brain partakes of the general state, and is vigorous and active.

The *fibrous* (generally, but inappropriately, termed the *bilious*) temperament, is recognised by black hair, dark skin, moderate fulness and much firmness of flesh, with harshly expressed outline of the person. The functions partake of great energy of action, which extends to the brain ; and the countenance, in consequence, shews strong, marked, and decided features.

The *nervous* temperament is recognised by fine thin hair, thin skin, small thin muscles, quickness in muscular motion, paleness of countenance, and often delicate health. The whole nervous system, including the brain, is predominantly active and energetic, and the mental manifestations are proportionally vivacious and powerful.



LYMPHATIC



SANGUINE





RILIOUS



NERVOUS

It is thus clearly admitted, that constitution or quality of brain greatly modifies the effects of size upon the mind;¹ but let us attend to the consequences. As a general rule, all the parts of the same brain have the same constitution, and if size be a measure of power, then in each head the large organs will be more powerful than the small ones. This enables us to judge of the strong and the weak points in each head. But if we compare two brains, we must recollect that their size may be equal, and that nevertheless the one, from possessing the finer texture and more vigorous constitution, may be active and energetic, while the other, from being inferior in quality, is naturally inert. The consequence may be, that the better constituted though smaller brain will manifest the mind with the greater vigour. That size is nevertheless a measure of power, may be proved by contrasting the manifestations of a small and of a large brain, possessing the same configuration, and equally well constituted; the power or energy will then be found superior in the latter. This illustrates what is meant by other natural conditions being equal. As the temperaments are distinguishable by the countenance and the general make of the body, and as the brain partakes of the general constitution, we possess a valuable though not all-sufficient index to its natural qualities. I repeat that these remarks apply only to the case of comparing one brain with another. The parts of the same brain have in general the same constitution; and, on the principle that size is a measure of power, the largest organs in each individual will be naturally the most vigorous. If the temperament be lymphatic, all the organs will act feebly and slowly, but the largest will be the most powerful and active, on account of their superior size. If the temperament be active, all will be active, but the largest will take the lead. It is on this account that a student of Phrenology in search of evidence, should not com-

¹ See an excellent treatise "On the most Effective Condition of the Brain as the organ of the Mind, and on the Modes of attaining it," by Charles Caldwell, M. D., in *American Phren. Journ.*, vol. i. p. 393.

pare the same organs in different brains, without attending very strictly to the temperament.

Of the causes of the temperaments, various theories have been formed, but none hitherto propounded can be regarded as altogether satisfactory.¹ But, as is well remarked by a writer in *The Phrenological Journal*, “It is with the *effects* of the temperaments, more than their *causes*, that we are concerned—and happily the former are less obscure than the latter. When an individual is characterized by softness of flesh, fairness of the skin, flaxen hair, plumpness of figure, a weak slow pulse, and a loutish inanimate expression, physiologists agree in describing him as a person of lymphatic temperament; and whatever be the *cause* of these appearances, we know from experience that they are *indications* of great languor of the bodily and mental functions. *Cæteris paribus*, temperament seems to affect equally every part of the body; so that if the muscles be naturally active and energetic, we may expect also activity and energy of the brain; and if one set of muscles be active, the like vivacity may be looked for in the others. This principle is practically recognised by William Cobbett, who, whatever may be his merits or demerits as a politician, is certainly a shrewd observer and describer of real life. In his Letter to a Lover, he discusses the question, ‘Who is to tell whether a girl will make an industrious woman? How is the purblind lover especially to be able to ascertain whether she, whose smiles, and dimples, and bewitching lips have half bereft him of his senses; how is he to be able to judge, from any thing that he can see, whether the beloved object will be industrious or lazy? Why, it is very difficult,’ he answers: ‘There are, however, certain outward signs, which, if attended to with care, will serve as pretty sure guides. And, first, if you find the *tongue* lazy, you may be nearly certain that the hands and feet are the same. By laziness of the tongue I do not mean *silence*; I do not mean an *ab-*

¹ See Section on “Application of Principles,” in a subsequent page, for a notice of Dr Thomas’s theory of the Temperaments.

sence of talk, for that is, in most cases, very good ; but I mean a *slow* and *soft utterance* ; a sort of *sighing out* of the words, instead of *speaking* them ; a sort of letting the sounds fall out, as if the party were sick at stomach. The pronunciation of an industrious person is generally *quick* and *distinct*, and the voice, if not strong, *firm* at least. Not masculine ; as feminine as possible : not a croak nor a bawl, but a quick, distinct, and sound voice.' ' Another mark of industry is a *quick step*, and a somewhat heavy tread, shewing that the foot comes down with a hearty good will.' ' I do not like, and I never liked, your sauntering, soft-stepping girls, who move as if they were perfectly indifferent as to the result.' ¹ We are disposed to think that Cobbett's homely advice will prove sound in all cases where the nervous and muscular systems are equally developed, equally healthy, and equally accustomed to exercise. But if the head be large and the muscles small, the individual will be much more inclined to mental than to muscular activity ; and, on the other hand, if he have large muscles and a small brain, the activity derived from a sanguine or bilious temperament will have a tendency to expend itself in exercise or labour of the body. The reason of this is, that the largest organs have, *cæteris paribus*, the greatest tendency to act ; their activity is productive of the greatest pleasure ; hence they are more frequently exercised than the smaller organs ; and thus the energy and activity of the larger are made to predominate still more than they did originally, over those of the smaller." " The remarks now offered in reference to the comparative efficiency of the muscular and cerebral functions, are equally applicable to the cerebral organs, considered in relation to each other. Where two organs are alike in development and cultivation, a nervous or sanguine temperament will render them equally active ; but where one is more fully developed than the other, it will excel the latter both in power and activity. In another brain of the same size and form, but with a lymphatic temperament, a

¹ Cobbett's *Advice to Young Men*, Letter III. sect. 102-5.

similar predominance of the power and activity of one organ over those of the other will be found; but the absolute power and activity of both will be less than in the other case supposed. Temperament, therefore, besides influencing the *activity* of the organs, affects their *power* also, to a greater extent than some phrenologists seem inclined to allow.”¹

Further, the brain must possess a healthy constitution, and that degree of activity which is the usual accompaniment of health. Now, the brain, like other parts of the body, may be affected with certain diseases which do not diminish or increase its magnitude, but yet impair its functions. The phrenologist ascertains the health by inquiry. In cases of disease, great size may be present, and very imperfect manifestations appear; or the brain may be attacked with other diseases, such as inflammation, or any of those particular affections whose nature is unknown, but to which

¹ *Phrenological Journal*, vol. ix. p. 116-118; see also pp. 54, 267. Engravings illustrative of the Temperaments will be found in Dr Spurzheim's *Phrenology in Connexion with the Study of Physiognomy*, London, 1826, Plate I.

As the error is still very common, that phrenologists consider the power of an organ to depend on its size alone, I subjoin several passages on this subject, extracted from phrenological works. Dr Gall, in the first volume of his treatise *Sur les Fonctions du Cerveau*, says:—“L'énergie des fonctions des organes ne dépend pas seulement de leur développement, mais aussi de leur excitabilité.”—(P. 196.) “Les fonctions des sens dont les organes sont plus considérables, plus sains, et plus développés, ou qui ont reçu une irritation plus forte, sont, par cela même, plus vives. La même phénomène se reproduit dans les facultés de l'âme; les organes de ces facultés agissent avec plus d'énergie, s'ils sont *plus irrités* ou *plus développés*.”—(P. 308.) And Dr Spurzheim, in his work on Physiognomy, above referred to, states that “it is important, in a physiological point of view, to take into account the *peculiar constitution or temperament* of individuals, not as the cause of determinate faculties, but as *influencing the energy* with which the special functions of the several organs are manifested.”—(P. 15.) “The energy and excellence of the brain,” says Dr Caldwell, “depend on its size, configuration, and tone—its extensivity and intensity.”—(*Elements of Phrenology*, Lexington, Ky., 1824, p. 38). See farther on the temperaments, *The Phrenological Journal*, viii. 293, 369, 447, 509, 564, 595; x. 583; xii. 121.

the name of Mania is given in nosology, and which greatly exalt its action ; and then very forcible manifestations may proceed from a brain comparatively small : but it is no less true, that when a larger brain is excited to the same degree by the same causes, the manifestations are still more energetic, in proportion to the superiority of size. These cases, therefore, form no valid objection to Phrenology ; for the phrenologist ascertains, by previous inquiry, that the brain is in a state of health. If it is not, he makes the necessary limitations in drawing his conclusions.

The effects of exercise in adding to mental power are universally known, and ought never to be overlooked by the phrenologist. "The brain, being an organized part, is subject, in so far as regards its exercise, to precisely the same laws as the other organs of the body. If it be doomed to inactivity, its health decays, and the mental operations and feelings as a necessary consequence become dull, feeble, and slow. If it be duly exercised, after regular intervals of repose, the mind acquires readiness and strength ; and, lastly, if it be over-tasked, either in the force or duration of its activity, its functions become impaired, and irritability and disease take the place of health and vigour."¹ The other circumstances which modify size will be considered afterwards.

Let us turn our attention to the point of the argument at which we are now arrived. We have seen that the brain is the organ of the mind ; that it is not a single organ, but that the analogy of all the other organs, the successive development of the faculties, with the phenomena of partial genius, partial insanity, monomania, dreaming, and partial injuries of the brain, indicate that it is a congeries of organs manifesting a plurality of faculties ; and that, in the cases of the bones, muscles, nerves of motion, nerves of feeling, and nerves of the other senses, size has an influence on power of

¹ *The Principles of Physiology applied to the Preservation of Health, and to the Improvement of Physical and Mental Education.* By Andrew Combe, M. D. 4th edit. p. 292.

function : and from the analogy of these organs, as well as from direct facts and physiological authorities, we have come to the same conclusion regarding the brain—that vigour of function, other circumstances besides magnitude being equal, is in proportion to the size of the organ. From these premises it follows as a necessary consequence, that, with respect to the manifestation of the mental faculties, it will not be indifferent in what direction the brain is most or least developed : for example, if different parts of the brain possess different functions, and if the strength of function be in proportion to the size of the part, the vigour of the faculties connected with the forehead, whatever these may be, will be greater where the frontal region predominates in size than where the predominance is in the posterior portion ; and differences will occur also in cases of preponderance in the superior or inferior regions. In short, it is obvious that two brains may be composed of exactly the same number of cubic inches of cerebral matter, and yet serve to manifest two minds totally different from each other in the *kind* of disposition or capacity by which they are characterized ; so that the form of the head is an object of attention to the phrenologist, not less interesting and important than its size.¹ This fact shews how erroneous it is to draw any precise inferences as to either the talents or the dispositions of an individual from the size of his hat ; for even supposing this to be an accurate indication of the size of the head (which, however, it is not), we must still ascertain the directions in which the brain is most largely and most sparingly developed.

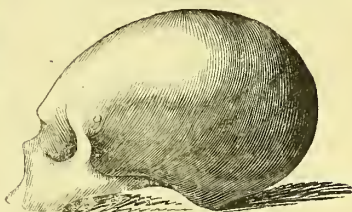
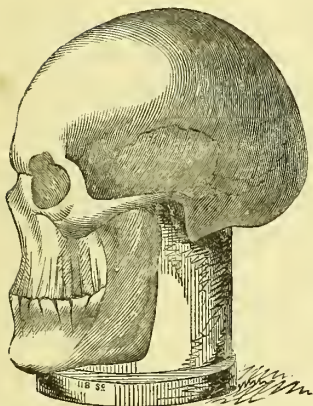
Here we have a representation of the skull of Dr Spurzheim, and of the skull of a native of New Holland ; both taken from casts in the collection of the Phrenological Society. The difference in the forehead is very conspicuous.² If the part of the brain lying in that region have any func-

¹ See *Phren. Jour.* x. 628.

² In these and some of the other cuts illustrating this work, the skulls and heads contrasted with each other have accidentally been drawn in

DR SPURZHEIM.

NEW HOLLANDER.



tion connected with intellect, and if size be a measure of power, the two beings should form a strong contrast of power and weakness in that department. And, accordingly, the case is so. Dr Spurzheim has left in his phrenological works a durable record of moral and intellectual greatness ; while Sir Walter Scott describes the other as follows :—" The natives of New Holland are, even at present, in the very lowest scale of humanity, and ignorant of every art which can add comfort or decency to human life. These unfortunate savages use no clothes, construct no cabins or huts, and are ignorant even of the manner of chasing animals, or catching fish, unless such of the latter as are left by the tide, or which are found on the rocks ; they feed upon the most disgusting substances, snakes, worms, maggots, and whatever trash falls in their way. They know, indeed, how to kindle a fire ; in that respect only they have stepped beyond the deepest ignorance to which man can be subjected ; but they have not learned how to boil water ; and when they see Europeans

different positions. Although the circumstance was not likely to escape the reader's notice, I have thought proper to mention it here. In the present instance, it will be observed that from the cast of Spurzheim's skull being on a pedestal, the head is in the natural position, while the skull of the New Hollander reclines a little backwards.

perform this ordinary operation, they have been known to run away in great terror."

We have now arrived, by a fair and legitimate induction, at strong presumptive evidence in favour of the general principles of Phrenology—namely, that the brain is the organ of the mind ; that different parts of it are connected with different faculties ; and that the size of the organ exerts an influence on the power of manifestation. Here, then, the inquiry presents itself, *What faculties and what parts of the brain are mutually connected ?* This is the grand question remaining to be solved, in order to render our knowledge of the functions of the brain and the organs of the mind precise and practically useful. Let us inquire what progress the metaphysician and anatomist have made in elucidating this point. It is of importance to take a view of the past efforts of philosophers on this subject, that we may be able correctly to appreciate both what remains to be done, and how far Phrenology affords the means of accomplishing it.

By one set of philosophers, the mind has been studied with too little reference to the body, and the laws of thought have been expounded with as much neglect of organization as if we had already "shuffled off this mortal coil." From this erroneous practice of many distinguished authors, such as Locke, Hume, Reid, Stewart, and Brown, a prejudice has arisen against the physiology of man, as if the mind were degraded by contemplating it in connection with matter ; but man is the work of the Creator of the world, and no part of his constitution can be unworthy of regard and admiration. The whole phenomena of life are the result of mind and body joined, each modifying each ; and how can we explain a result without attending to *all* the causes which combine towards its production ? In the words of Dr John Gregory, " It has been the misfortune of most of those who have studied the philosophy of the human mind, that they have been little acquainted with the structure of the human body,

and the laws of the animal economy ; and yet the mind and body are so intimately connected, and have such a mutual influence on one another, that the constitution of either, examined apart, can never be thoroughly understood. For the same reason, it has been an unspeakable loss to physicians, that they have been so generally inattentive to the peculiar laws of the mind and their influence on the body.”¹ Mr Dugald Stewart quotes with approbation from another work of the same author,² the following observation regarding “the laws of union between the mind and body, and the mutual influence they have upon one another :” This, says Dr Gregory, “is one of the most important inquiries that ever engaged the attention of mankind, and almost equally necessary in the sciences of morals and medicine.”³

Another set of philosophers, in avoiding Scylla, have thought it necessary to dash into Charybdis, and, teaching that the mind is nought but a combination of matter, have endeavoured to explain its functions by supposed mechanical motions in its parts : But, as we shall afterwards see, this course of proceeding is equally erroneous with the other.

In surveying the phenomena of mind, we are struck by the variety of faculties with which it appears to be endowed. Philosophers and the vulgar equally admit it to be possessed of different powers. Thus it is said to reason by one faculty, to fear by another, and by a third to discriminate between right and wrong.

If, however, we inquire what progress has hitherto been made by metaphysicians in ascertaining the primitive mental powers, and in rendering the philosophy of man interesting and practically useful to persons of ordinary understanding, we shall find a deficiency that is truly deplorable. From the days of Aristotle to the present time, the most

¹ *Comparative View of the State and Faculties of Man with those of the Animal World*, 3d edit. p. 5. Lond. 1766.

² *On the Duties and Qualifications of a Physician*, Lecture IV.

³ See Stewart's *Preliminary Dissertation* ; *Encyc. Brit.* 7th edit. Vol. i. p. 224.

powerful intellects have been directed, with the most persevering industry, to this department of science; and system after system has flourished, fallen, and been forgotten, in rapid and melancholy succession. To confine our attention to modern times:—Dr Reid overturned the philosophy of Locke and Hume; Mr Stewart, while he illustrated Reid, yet differed from him in many important particulars; and, recently, Dr Thomas Brown has attacked, with powerful eloquence and philosophical profundity, the fabric of Stewart, which already totters to its fall. The very existence of the most common and familiar faculties of the mind is debated among these philosophers. Mr Stewart maintains Attention to be a faculty, but this is denied by Dr Brown. Others, again, state Imagination to be a primitive power of the mind, while Mr Stewart informs us, that “what we call the power of Imagination, is *not the gift of nature*, but the result of acquired habits, aided by favourable circumstances.”¹ Common observation informs us, that musical talent, and a genius for poetry and painting, are gifts of nature, bestowed only on a few; but Mr Stewart, by dint of his philosophy, has discovered that these powers, and also a genius for mathematics, “are gradually formed by particular habits of study or of business.”² On the other hand, he treats of Perception, Conception, and Memory, as original powers; while Dr Thomas Brown denies their title to that appellation. Reid, Stewart, and Brown, admit the existence of moral emotions; but Hobbes, Mandeville, Paley, and many others, resolve the sentiment of right and wrong into a regard to our own good, perception of utility, and obedience to human laws or to the Divine command. Thus, after the lapse and labour of more than two thousand years, philosophers are not yet agreed concerning the existence of many of the most important principles of action, and intellectual powers of man. While the philosophy of mind shall remain in this uncertain condition, it will be impossible to give to morals and natural religion a scientific foundation;

¹ *Elements*, chap. 7, sect. 1.

² *Outlines*, p. 16.

and, until these shall assume the stableness and precision of sciences,—education, political economy, and legislation, must continue defective in their principles and application. If, therefore, Phrenology could introduce into the philosophy of mind even a portion of the certainty and precision which attend physical investigations, it would confer no small benefit on this interesting department of science; and that it is fully competent to do so, shall be made apparent after we have attended to a few preliminary points requiring consideration.

In the next place, supposing the number and nature of the primitive faculties to be ascertained, it is to be remarked, that, in actual life, they are successively developed. The infant feels anger, fear, attachment, before it is alive to the sublime or the beautiful; and it observes occurrences long before it reasons. A correct theory of mind ought to unfold the principles to which these facts also may be referred.

Farther; even after the full maturity of age is attained, how *different the degrees* in which we are endowed with the various mental powers! Admitting each individual to possess all the faculties which constitute the human mind, in what a variety of degrees of relative strength do they appear in different persons! In one, the love of glory is the feeling which surpasses all; another is deaf to the voice of censure, and callous to the accents of applause. The soul of one melts with softest pity at a tale of woe; while the eye of another never shed a sympathetic tear. One individual spends his life in an ardent chace of wealth, which he stops not to enjoy; another scatters in wasteful prodigality the substance of his sires, and perishes in want from a mere incapacity to retain. One vast intellect, like Newton's, fathoms the profundities of science; while the mind of another can scarcely grope its way through the daily occurrences of life. The towering imagination of a Shakspeare or a Milton soars beyond the boundaries of sublunary space;

while the sterile fancy of a clown sees no glory in the heavens, and no loveliness on earth.

A system of mental philosophy, therefore, pretending to be true, ought not only to unfold the simple elements of thought and of feeling, but to enable us to discover *in what proportions* they are combined in different individuals. In chemical science, one combination of elementary ingredients produces a medicine of sovereign virtue in removing pain; another combination of the same materials, but differing in their relative proportions, brings forth a mortal poison. In human nature, also, one combination of faculties may produce the midnight murderer and thief—another a Franklin, a Howard, or a Fry, glowing with charity to man.

If, however, we search the works of those philosophers who have hitherto written on the mind, for rules by which to discriminate the effects produced upon the character and conduct of individuals by different combinations of the mental powers, what information do we receive? Instead of light upon this interesting subject, we find only disputes whether such differences exist in nature or are the result of education and other adventitious circumstances; many maintaining the one opinion, while some advocate the other. This department of the philosophy of man, in short, is a perfect waste. Mr Stewart was aware equally of its importance and of its forlorn condition. “The varieties of intellectual character among men,” says he, “present another very interesting object of study, which, considering its practical utility, has not yet excited, so much as might have been expected, the curiosity of our countrymen.”¹ The reason appears sufficiently obvious; the common modes of studying man afforded no clew to the discovery desired.

In thus surveying the philosophy of the human mind, as at present exhibited to us in the writings of philosophers, we perceive, *first*, That no account is given of the influence of the material organs on the mental powers; and that the

¹ *Dissertation, Encyc. Brit.* vol. i. p. 223.

progress of the mind from youth to age, and the phenomena of sleep, dreaming, idiocy and insanity, are left unexplained or unaccounted for by any principles admitted in their systems: *secondly*, That the existence and functions of some of the most important primitive faculties are still in dispute: and, *thirdly*, That no light whatever has been thrown on the nature and effects of combinations of the primitive powers, in different degrees of relative proportion. It is with great truth, therefore, that Monsieur de Bonald, quoted by Mr Stewart, observes, that “the diversity of doctrines has increased from age to age, with the number of masters, and with the progress of knowledge; and Europe, which at present possesses libraries filled with philosophical works, and which reckons up almost as many philosophers as writers; poor in the midst of so much riches, and uncertain, with the aid of all its guides, which road it should follow; Europe, the centre and the focus of all the lights of the world, has yet its *philosophy* only in expectation.”¹

While philosophers have been thus unsuccessfully engaged in the study of mental science, human nature has been investigated by another set of observers—Moralists, Poets, and Divines. These have looked upon the page of life merely to observe the characters there exhibited, with the view of tracing them anew in their own compositions; and certainly they have executed their design with great felicity and truth. In the pages of Shakspeare, Addison, Johnson, Tillotson, and Scott, we have the lineaments of mind traced with a perfect tact, and exhibited with matchless beauty and effect. But these authors had no systematic object in view, and aimed not at founding their observations on principles which might render them subservient to the practical purposes of life. Hence, although in their compositions we find ample and admirable materials for the elucidation of a true system of the philosophy of man, yet, without other aids than those which they supply, we

¹ *Recherches Philosophiques*, p. 58; quoted in *Encyc. Brit.* vol. i. p. 230.

cannot arrive at fundamental principles sufficient to guide us in our intercourse with the world. The charge against their representations of human nature is, not that they are incorrect, but that they are too general to be useful. They draw striking pictures of good men and of bad men, but do not enable us to discover, previously to experience, whether any particular individual with whom we may wish to connect our fortunes, belongs to the one class or to the other—a matter of extreme importance, because, in the course of gaining experience, we encounter the risk of suffering great calamities. In short, poets and novelists describe men as they do the weather: in their pages they make the storm to rage with terrific energy, or the sun to shine with the softest radiance, but do not enable us to discover whether, to-morrow, the elements will war, or the zephyrs play; and, without this power, we cannot put to sea with the certainty of favouring gales, nor stay in port without the risk of losing winds that would have wafted us to the wished-for shore. Phrenology, therefore, if a true system of human nature, ought not only to present to the popular reader a key of philosophy which shall enable him to unlock the stores of intellectual wealth contained in the volumes of our most gifted authors; but likewise to render their representations of human character practically useful, by enabling him to discover the natural qualities of living individuals previously to experience of their conduct, and thus to appreciate their tendencies before becoming the victim of their incapacity or passions.

The causes of the failure of the metaphysician are easily recognised. He studied the mind chiefly by reflecting on his own consciousness; he turned his attention inwards, observed the phenomena of his own faculties, and recorded these as metaphysical science. But the mind is not conscious of organs at all; we are not informed by it of the existence of muscles, nerves of motion, nerves of taste, nerves of smell, an auditory apparatus, optic nerves, or any mental organs whatever. All that consciousness reveals is, that

the mind inhabits the head ; but it does not inform us what material substances the head contains : hence it was impossible for the metaphysician to discover the organs of the mind by his method of philosophizing, and no metaphysical philosopher pretends to have discovered them. The imperfection of this mode of investigation accounts for the contradictory representation of the human mind given by different metaphysicians. Suppose an individual with a brain like that of a New Hollander, to turn philosopher ; he would never, by reflecting on his own consciousness, find an instinctive sentiment of justice, and therefore he would exclude it from his system. On the other hand, another philosopher, constituted like Dr Spurzheim, would feel it strongly, and give it a prominent place:

When we turn our attention to the works of Physiologists, we discover the most ceaseless, but fruitless, endeavours to ascertain the parts of the body with which the several mental powers are most closely connected. Some of them have dissected the brain, in the hope of discovering in its texture an indication of the functions which it performs in relation to the mind ; but success has not hitherto crowned their efforts. When we examine, with the most scrupulous minuteness, the form, colour, and texture of the brain, no sentiment can be perceived slumbering in its fibres, nor half-formed ideas starting from its folds. It appears to the eye only as a mass of curiously convoluted matter ; and the understanding declares its incapacity to penetrate the purposes of its parts. In fact, we cannot, by merely dissecting any organ of the body whatever, discover its vital functions. Anatomists for many centuries dissected the nerves of motion and feeling, and saw nothing in their structure that indicated the difference of their functions ; and, at this moment, if the nerves of taste and of hearing were presented together on the table, we might look at them for ages without discovering traces of separate functions in their structure. Simple dissection of the brain, therefore,

could not lead to the discovery of the functions of its different parts.¹

Thus, the obstacles which have hitherto opposed the attainment of this information have been numerous and formidable. The imagination, however, has been called in, to afford a substitute for the knowledge which philosophy withheld, and theories have been invented to supply the place of principles founded on facts and legitimate induction. Some physiologists, while they locate the understanding in the brain, derive the affections and passions from various abdominal and thoracic viscera, ganglia, and nerves. But the groundlessness of this notion is apparent from a variety of circumstances. In the first place, there is a presumption against it in the fact, that the heart, liver, and intestines have well-known functions entirely different from those so ascribed to them ; and it is contrary to the established principles of physiology to suppose that a muscular organ like the heart is at once an apparatus for propelling the blood, and the organ of courage and love,—or that the liver, which secretes bile, and the bowels, which are organs of nutrition, are at the same time respectively the organs of anger and compassion. These emotions being mental phenomena, it is presumable that they ought to be referred, like the analogous phenomena of intellect, to the nervous system. Secondly, no relation is found to subsist between the size of these viscera and the mental qualities ascribed to them : cowardly men have not small hearts, nor do we find the liver more ample in angry men than in mild and pacific. Thirdly, disease of the brain influences the affective faculties not less than the intellectual ; while, on the other hand, the abdominal and thoracic viscera are often in a morbid

¹ The proposition that the structure of an organ does not reveal its function is to be understood with reference not to *mechanical* functions, but only to *vital*. Harvey was led to discover the function of the heart and bloodvessels, by observing in them certain valves capable of permitting the blood to flow in one direction, but not in the opposite. So true it is, however, that vital functions are not revealed by dissection, that physiologists have not even yet been able to determine the office of the spleen.

state without any corresponding change of the faculties ascribed to them. Fourthly, why do not children, in whom these viscera are well developed even at birth, manifest *all* the passions in their earliest years? Fifthly, many idiots, almost or wholly destitute of some of the affections, have nevertheless a complete development of the thoracic and abdominal viscera. Sixthly, it is very improbable that animals of different species having the viscera alike, should manifest opposite affections—that the heart, for example, should be the organ of fear in the sheep and of courage in the dog.¹ Lastly and above all, observation proves that the affective faculties are stronger and weaker according as certain parts of the brain are more or less developed; a fact which will be demonstrated when we come to treat of them in detail. Those who argue that, because fear and anger cause palpitation of the heart, it must be the organ of these passions, do in reality (according to the remark of Dr Mason Good, quoted above, p. 12.) mistake an effect for its cause. By means of the nerves the thoracic and abdominal viscera are intimately connected with the brain, and a very close sympathy exists between them. Excitement and disease of the brain, therefore, often produce marked effects upon the viscera; and in like manner diseases of the stomach and liver have a very obvious influence on the brain. Excitement even of the intellectual faculties is not unfrequently found to affect the viscera: thus it is recorded of Malebranche, that he was seized with lively palpitations of the heart when reading the *Treatise on Man* of Descartes; and Tissot, in his work on the Diseases of Literary and Sedentary Persons, refers to many cases where over-exertion of the intellect occasioned the same diseases of the viscera as those produced by too great violence of the passions. So also, vomiting is sometimes occasioned by wounds of the brain; but the brain is not therefore the seat of vomiting.

¹ Gall, ii. 93-97.—I do not regard the sixth argument as of much value; for an organ apparently the same may have different functions in different species of animals. See on this subject the *Phrenological Journal*, ix. 514.

On the other hand, nervous affections, equally with those of the viscera, result from great activity of the passions, in the various forms of palsy, convulsions, madness, and epilepsy. Grief, as every one is aware, makes us shed tears; fear produces a sensation of cold in the skin, and causes the legs to totter; and indigestion frequently occasions toothach: but are we thence to infer that the lachrymal glands are the organs of grief, the teeth the seat of indigestion, and the skin or legs the organs of fear? In short, to use the words of Adelon, who has adopted the whole of Gall's arguments on this point, "les objections se présentent en foule contre toute cette doctrine."¹ Even Dr Prichard, who proposes no other seat for the passions, abandons the claim of the thoracic and abdominal viscera as utterly hopeless—on the ground, among others, "that the same emotion will display its effect on different organs in different individuals. Fear or terror will occasion in one person fainting or palpitation of the heart; in another, it affects the liver or intestinal canal; but the particular effect would probably be uniform and unvaried if the mental emotion were dependent on some particular ganglion of the great sympathetic nerve [which was the idea of Bichât]. The vagueness of popular language on this subject is sufficient to prove that the physical effects of the emotions are very various. The Greeks referred most of the passions to the liver, spleen, and diaphragm; the Hebrews, to the bowels and reins; the moderns refer them almost solely to the heart. The diversity of these phenomena, which vary according to the peculiarities of constitution, proves that they are secondary effects produced by the emotions through sympathy on the functions of the viscera, those organs being most affected which in each individual have the greatest irritability or susceptibility of impressions."²

¹ Adelon, *Physiologie de l'Homme*, 2d. edit. i. 160.

² Prichard's *Review of the Doctrine of a Vital Principle*, &c. p. 179. In a subsequent sentence, this author displays no small degree of ignorance, real or affected, of the facts collected and observed by other physiologists.

Another class of physiologists have compared the size of the brain of man with that of the brains of the lower animals, contrasting at the same time their mental powers; and have been led to the conclusion that it is the organ of the mind, and that its superior development in man indicates his mental superiority over the brutes; but these philosophers have not succeeded in determining the functions of the *different parts* of this organ, and have not been able in any important degree, to connect their discoveries with the philosophy of mind. Camper, in order to measure the extent of the brain, and, as he imagined, the corresponding energy of the intellectual faculties, drew a vertical line, touching the upper lip and the most prominent part of the forehead; and also a horizontal line, crossing the former, and touching the tips of the upper front teeth and the external opening of the ear, or at least corresponding to these points in its direction: and he thought that man and brutes have more understanding, the more the upper and inner angle formed by the two lines, or that including the upper jaw, nose, &c. is obtuse; and, on the contrary, that they are more stupid, the more this "facial angle" is acute. But this way of measuring the intellectual faculties is not more correct than that previously mentioned. The facial angle applies only to the middle parts of the brain situated in the forehead, and is inapplicable to all the lateral and posterior parts; hence it could, even if there were no other objection, indicate only those faculties whose organs constitute the middle of the forehead. Besides, in many Negroes, the jaw-bones are extremely prominent, and the facial angle acute; while their foreheads are in fact largely developed, and their intellectual faculties powerful—although, by Camper's rule, they ought to be inferior to many stupid Europeans, whose foreheads are deficient, but whose jaws re-

"Later writers," says he, "have abandoned the notion of Bichât, and have referred the passions to the brain. But this supposition is *equally gratuitous, and supported by no proof!*" P. 180.

cede. Hence, the facial angle cannot serve as a means of measuring the moral sentiments and intellectual faculties.¹

Some physiologists, as Sæmmering and Cuvier, have compared the size of the brain in general with the size of the face; and, according to them, animals are stupid as the face is large in proportion to the brain. But that this rule is not infallible, is easily proved; because Leo, Montaigne, Leibnitz, Haller, and Mirabeau, had large faces and very considerable brains. Bossuet, Voltaire, and Kant, had, on the contrary, small faces and also large brains.²

The cerebral parts have likewise been compared with each other, in order to ascertain their functions; as, the brain with the cerebellum, the brain with the medulla oblongata, with the nerves, &c.: but these modes also have led to no satisfactory results.

Some physiologists have endeavoured to discover the functions of the parts of the brain, by mutilating certain portions of it in animals, and observing the effects produced on their mental manifestations. But four conditions are necessary to the success of this method of investigation:—*First*, The part destroyed must be a distinct organ with a specific function; *secondly*, The part injured must be such that it can be cut without necessarily involving the disorder of the functions of a variety of other parts; *thirdly*, If it be nerves that we cut, the functions of the organ to which they are distributed must be known; and, *fourthly*, After the operation, the state of these functions must be completely within reach of observation. These conditions were present in Sir Charles Bell's experiments in irritating or cutting roots of the nerves of motion and sensation. (See the Section on the Nerves in a subsequent page.) For, 1st, These nerves were distinct organs, each having a specific function; 2dly, It was possible to cut a branch of the fifth pair, or a root of a spinal nerve, without involving the functions of the nervous system in general in derangement; 3dly, It was known that

¹ Spurzheim's *Phrenology*, p. 58-60.

² *Ibid.* p. 61.

the muscles manifest voluntary motion and sensation ; and hence, when one of these powers was suppressed, it was possible to distinguish its absence ; 4thly, the muscles on which the cut nerves were ramified were so much within reach of observation, that they could be forced into action or sensation at the will of the experimenter, and hence he could discover the effect of his operations.

When, however, Flourens proceeded to cut out, in living animals, the cerebellum and different parts of the hemispheres of the brain, these conditions were wanting. For, 1st, He could not say whether the parts were or were not distinct organs, executing specific functions ; 2dly, These parts could not be laid open and cut away without involving the functions of the nervous system generally—this proposition is now admitted by Sir Charles Bell and many other physiologists ; 3dly, He did not know beforehand what mental power the part destroyed manifested, and he could not therefore judge of its suppression ; and, 4thly, The animals in whom the cerebellum and parts of the convolutions were destroyed, were not, after the operations, in a condition of health, or placed in external circumstances calculated to shew whether they were or were not capable of manifesting any propensity which might be connected with the injured organs. There is not a shadow of evidence, for example, that these creatures manifested the propensity of *Amativeness* *after* the cerebellum was destroyed. Yet, it would be only by their doing so, that our doctrine, that this feeling is connected with the cerebellum, could be refuted by these experiments.

The physiologists who compared the size of the brain of man with that of the brains of the lower animals, in order to discover their functions, acted on the implied confession that the functions of the *different parts* of the brain *in both* were unknown. They entertained, it is true, some vague general ideas of the mental powers of man and animals, but they confessedly were unable to point out *any particular faculty* as connected with any *particular part of the brain*. Indeed, the object of their comparisons was

to discover this connection. They seem, however, not to have considered the difficulty of extracting a positive, out of two negatives, or to have perceived, that, by comparing two parts, both of whose uses were unknown, there were small probability of evolving a knowledge of the functions of either. Apparently they were led to adopt this method of investigation, in consequence of the success which had attended the comparison of the nerves, bones, bloodvessels, and other organs in man, with the same organs in animals. But they seem to have overlooked the fact, that wherever this comparison had enriched science, the uses of the organs compared were previously ascertained in each species, by direct observations made on itself. Where this had not been the case, unknown functions have not been brought to light by this method. The nerves, for example, proceeding from the spinal marrow, had often been compared in man and animals, without leading to the discovery that those connected with the anterior column manifest motion, and those with the posterior, feeling.

The vivi-sectors appear to have been led to institute their experiments, by the success which attended the vivi-sections of Sir Charles Bell in discovering the nerves of motion and sensation, without having reflected on the great difference between these nerves and the brain. The cutting of these nerves led to the discovery of their functions only because their extremities were ramified on external organs (the skin and muscles), on which each produced a special effect discoverable by observation. But each of the different emotions and intellectual powers, is not provided with a special external organ for its manifestation. Benevolence uses the same voluntary muscles to accomplish its deeds of charity, which Destructiveness employs to gratify its feelings of revenge. If each distinct cerebral part used a special external organ, then by destroying a given part of the brain, we might reasonably expect a certain external organ to lose its functions, and by this means we might discover what mental power the part destroyed manifested. But as the whole mental faculties, affective and intellectual, use the same external organs

for their manifestations, this index is wanting. When the whole brain is destroyed, we are told that "the animal sits as if it were stupified, it does not leave its place, it experiences no desires, no feeling, no fear, no anxiety;" in other words, its whole mental functions are suppressed, and the outward manifestations of them cease; but although this proves that the brain in general is the organ of the mind in general, it throws no light on the functions of its *different parts*.

This method of discovering the functions of the brain is now pretty generally given up. Sir Charles Bell says, "It is but a poor manner of acquiring fame, to multiply experiments on brutes, and take the chances of discovery. We ought at least to try to get at the truth without cruelty, and to form a judgment without having recourse to torture."¹

¹ *An Essay on the Circulation of the Blood*, by Charles Bell, &c. 1819, p. 25.

An inclination has occasionally been evinced to detract from the honour due to Dr Gall, by affirming that many previous writers taught the plurality of cerebral organs. In answer to such assertions I refer to page 20, and also quote the following remarks from *The Medico-Chirurgical Review*: "No great discovery was probably ever made instantaneously. Conjectures long precede proofs, in most instances. The real and effective discoverer, we imagine, is he who fixes the attention of the world on, and *proves* the discovery, by bringing it into complete operation. If Harvey or some other person had not *demonstrated* the circulation of the blood, all the hints and suppositions of his predecessors, from Hippocrates downwards, would have gone for nothing. Of what use was the *actual knowledge* of vaccination, possessed by the Gloucestershire farmers, till Jenner fixed the attention of the profession on it, and proved its efficacy in preventing variola? Great numbers of Harvey's contemporaries denied the truth of the discovery—and afterwards, when the world acknowledged the truth of it, they attempted to prove that the circulation was known to many others before he was born. This has ever been the case, and arises from the envy and jealousy which men feel towards each other, while living, and rivals."—(No. 43. p. 31, January 1835). If the plurality of the cerebral organs was *known* before the time of Gall, how was it possible for a physiologist like Dr Cullen to pen the following sentences? "Although we cannot doubt that the operations of our intellect always depends upon certain motions taking place in the brain, yet these motions have never been the objects of our senses, *nor have we been able to perceive that any particular part of the brain has more concern in the operations of our*

Dr Roget, an opponent of Phrenology, freely confesses that "the brain is, even at the present day, as incomprehensible in its functions, as it is subtile and complex in its anatomy;"¹ and the writer in the 94th Number of *The Edinburgh Review* says:—"Even within our own time, although many great anatomists had devoted themselves almost exclusively to describing the brain, this organ used to be demonstrated, by the greater number of teachers, in a manner which, however invariable, was assuredly not particularly useful. It was so mechanically cut down upon, indeed, as to constitute a sort of exhibition connected with nothing. The teacher and the pupil were equally dissatisfied with the performance, and the former probably the most; the latter soon gave up the painful attempt to draw any kind of deductions from what he witnessed, and disposed of the difficulty as he best could, when he had to render an account of what he had seen. Up to this day, our memory is pained by the recollection of the barbarous names and regular sections of what was then the dullest part of anatomical study; which, although often repeated, left no trace but of its obscurity or its absurdity. Here an oval space of a white colour, and there a line of grey or curve of red, were displayed; here a cineritious, there a medullary mass; here a portion white without and grey within, there a portion white within and grey without; here a gland-pituitary, there a gland like grains of sand; here a ventricle, there a cul-de-sac; with endless fibres, and lines, and globules, and simple marks, with appellations no less fanciful than devoid of meaning."

"The anatomist dissected, and toiled on in this unpromising territory, and entangled himself more in proportion

intellect than any other. Neither have we attained any knowledge of *what share the several parts of the brain have in that operation*; and, therefore, in this situation of our science, it must be a very difficult matter to discover those states of the brain that may give occasion to the various states of our intellectual functions." (*Practice of Physic*, vol. i. sect. 1539.) See also Dr T. Brown's *Lectures*, i. 420.

¹ *Encyc. Brit.*, article "Phrenology," vol. xvii. p. 454.

to his unwillingness to be defeated; and he succeeded, no doubt, in making out a clear display of all these complicated parts, which few, however, could remember, and fewer still could comprehend. Then came the physiologist in still greater perplexity, and drew his conclusions, and assigned offices to the multiplied portions and ramifications of nervous substance, by arbitrary conjecture for the most part, and often with manifest inconsistency. Although the brain was generally allowed to be the organ of the intellectual faculties, it was supposed to give out from particular portions of the mass, but quite indifferently, nerves of sensation, general and specific, nerves of motion, and nerves of volition; the single, double, or multiplied origin of nerves, which had not escaped notice, not being supposed to be connected with these separate offices."

"Such, so vague, so obscure, so inexact, so unsatisfactory, was the kind of knowledge communicated to the student, until a very recent period; and the impression left by it was that of confused and unintelligible profusion in the distribution of nerves, of intricacy without meaning, of an expenditure of resources without a parallel in the other works of nature." (Pages 447-449.)

Unless, then, Dr Gall could boast of some other method of investigation than those of the ordinary physiologist and metaphysician, he could offer no legitimate pretensions to the solution of the question, What parts of the brain, and what mental faculties, are connected? By great good fortune, however, he was led to adopt a different and superior mode of inquiry; and this leads me to state shortly a few particulars of the history of the science which is now to be expounded.

DR FRANCIS JOSEPH GALL, a physician of Vienna, afterwards resident in Paris,¹ was the founder of the system. From an early age he was given to observation, and was

¹ Born at Tiefenbrunn, near Pforzheim, in Suabia, on 9th March 1757; died at Paris 22d August 1828.

struck with the fact, that each of his brothers and sisters, companions in play, and schoolfellows, was distinguished from other individuals by some peculiarity of talent or disposition. Some of his schoolmates were characterized by the beauty of their penmanship, some by their success in arithmetic, and others by their talent for acquiring a knowledge of natural history or languages. The compositions of one were remarkable for elegance; the style of another was stiff and dry; while a third connected his reasonings in the closest manner, and clothed his argument in the most forcible language. Their dispositions were equally different; and this diversity appeared also to determine the direction of their partialities and aversions. Not a few of them manifested a capacity for employments which they were not taught: they cut figures on wood, or delineated them on paper; some devoted their leisure to painting, or the culture of a garden; while their comrades abandoned themselves to noisy games, or traversed the woods to gather flowers, seek for bird-nests, or catch butterflies. In this manner, each individual presented a character peculiar to himself; and Gall observed, that the individual who in one year had displayed selfish or knavish dispositions, never became in the next a good and faithful friend.

The scholars with whom Gall had the greatest difficulty in competing, were those who learned by heart with great facility; and such individuals frequently gained from him by their repetitions, the places which he had obtained by the merit of his original compositions.

Some years afterwards, having changed his place of residence, he still met individuals endowed with an equally great talent for learning to repeat. He then observed that his schoolfellows so gifted possessed prominent eyes, and recollected that his rivals in the first school had been distinguished by the same peculiarity. When he entered the University he directed his attention, from the first, to the students whose eyes were of this description, and found that they all excelled in getting rapidly by heart, and giving cor-

rect recitations, although many of them were by no means distinguished in point of general talent. This fact was recognised also by the other students in the classes ; and although the connexion between talent and external sign was not at this time established upon such complete evidence as is requisite for a philosophical conclusion, Gall could not believe that the coincidence of the two circumstances was entirely accidental. From this period, therefore, he suspected that they stood in an important relation to each other. After much reflection, he conceived that if memory for words was indicated by an external sign, the same might be the case with the other intellectual powers ; and thereafter, all individuals distinguished by any remarkable faculty became the objects of his attention. By degrees he conceived himself to have found external characteristics which indicated a decided disposition for painting, music, and the mechanical arts. He became acquainted also with some individuals remarkable for the determination of their character, and he observed a particular part of their heads to be very largely developed : this fact first suggested to him the idea of looking to the head for signs of the dispositions or affective powers. But in making these observations, he never conceived for a moment that the skull was the cause of the different talents, as has been erroneously represented : from the first, he referred the influence, whatever it was, to the brain.

In following out, by observations, the principle which accident had thus suggested, he for some time encountered difficulties of the greatest magnitude. Hitherto he had been altogether ignorant of the opinions of physiologists touching the brain, and of metaphysicians respecting the mental faculties. He had simply observed nature. When, however, he began to enlarge his knowledge of books, he found the most extraordinary conflict of opinions every where prevailing ; and this, for the moment, made him hesitate about the correctness of his own observations. He found that

the affections and passions had, by almost general consent, been consigned to the thoracic and abdominal viscera ; and that, while Pythagoras, Aristotle, Plato, Galen, Haller, and some other physiologists, placed the sentient soul or intellectual faculties in the brain, Van Helmont placed it in the stomach, Descartes and his followers in the pineal gland, and Drelincourt and others in the cerebellum.

He found also, that a great number of philosophers and physiologists asserted that all men are born with equal mental faculties ; and that the differences observable among them are owing either to education or to the accidental circumstances in which they are placed. If differences were accidental, he inferred, there could be no natural signs of predominating faculties ; and consequently the project of learning, by observation, to distinguish the functions of the different portions of the brain, must be hopeless. This difficulty he combated by the reflection, that his brothers, sisters, and schoolfellows, had all received very nearly the same education, but that he had still observed each of them unfolding a distinct character, over which circumstances appeared to exert only a limited control ; and farther, that not unfrequently those whose education had been conducted with the greatest care, and on whom the labours of teachers had been most assiduously bestowed, remained far behind their companions in attainments. “Often,” says he, “we were accused of want of will, or deficiency of zeal ; but many of us could not, even with the most ardent desire, followed out by the most obstinate efforts, attain, in some pursuits, even to mediocrity ; while in some other points, some of us surpassed our schoolfellows without an effort, and almost, it might be said, without perceiving it ourselves. But, in point of fact, our masters did not appear to attach much faith to the system which taught equality of mental faculties ; for they thought themselves entitled to exact more from one scholar, and less from another. They spoke frequently of natural gifts, or of the gifts of God, and consoled

their pupils in the words of the Gospel, by assuring them that each would be required to render an account only in proportion to the gifts which he had received."¹

Being convinced by these facts that there is a natural and constitutional diversity of talents and dispositions, he encountered in books still another obstacle to his success in determining the external signs of the mental powers. He found that, instead of faculties for languages, drawing, music, distinguishing places, and mechanical arts, corresponding to the different talents which he had observed in his schoolfellows, the metaphysicians spoke only of general powers, such as perception, conception, memory, imagination, and judgment : and when he endeavoured to discover external signs in the head, corresponding to these general faculties, and to determine the correctness of the physiological doctrines taught by the authors already mentioned regarding the seat of the mind, he found perplexities without end, and difficulties insurmountable.

Abandoning, therefore, every theory and preconceived opinion, Dr Gall gave himself up entirely to the observation of nature. Being a friend of Dr Nord, physician to a lunatic asylum in Vienna, he had opportunities, of which he availed himself, of making observations on the insane. He visited prisons, and resorted to schools ; he was introduced to the courts of princes, to colleges, and to seats of justice ; and wherever he heard of an individual distinguished in any particular way, either by remarkable endowment or deficiency, he observed and studied the development of his head. In this manner, by an almost imperceptible induction, he at last conceived himself warranted in believing that particular mental powers are indicated by particular configurations of the head.

Hitherto he had resorted only to physiognomical indications, as a means of discovering the functions of the brain. On reflection, however, he was convinced that physiology is imperfect when separated from anatomy. Having observed

¹ *Sur les Fonctions du Cerveau*, Preface ; and tome v. p. 12.

a woman of fifty-four years of age, who had been afflicted with hydrocephalus from her youth, and who, with a body a little shrunk, possessed a mind as active and intelligent as that of other individuals of her class, Dr Gall declared his conviction, that the structure of the brain must be different from what was generally conceived—a remark which Tulpius also had made, on observing a hydrocephalic patient who manifested the mental faculties. He therefore felt the necessity of making anatomical researches into the structure of the brain.

In every instance where an individual whose head he had observed while alive happened to die, he requested permission to examine the brain, and frequently was allowed to do so ; and he found, as a general fact, that, on removal of the skull, the brain, covered by the *dura mater*, presented a form corresponding to that which the skull had exhibited in life.

The successive steps by which Dr Gall proceeded in his discoveries, are particularly deserving of attention. He did not, as many have imagined, first dissect the brain, and pretend, by that means, to discover the seats of the mental powers ; neither did he, as others have conceived, first map out the skull into various compartments, and assign a faculty to each, according as his imagination led him to conceive the place appropriate to the power. On the contrary, he first observed a concomitance between particular talents and dispositions, and particular forms of the head ; he next ascertained, by removal of the skull, that the figure and size of the brain are indicated by external appearances ; and it was only after these facts had been determined, that the brain was minutely dissected, and light thrown upon its structure.

At Vienna, in 1796, Dr Gall for the first time delivered lectures on his system.

In 1800, Dr JOHN GASPAR SPURZHEIM¹ began the study

¹ Born at Longuich, near Treves, on the Moselle, 31st December 1776 ; died at Boston, United States, on 10th November 1832.

of Phrenology under him, having in that year assisted, for the first time, at one of his lectures. In 1804, he was associated with him in his labours; and, subsequently to that period, not only added many valuable discoveries to those of Dr Gall, in the anatomy and physiology of the brain, but contributed to form the truths brought to light by their respective observations, into a beautiful and interesting system of mental philosophy, and developed its moral applications. In Britain we are indebted chiefly to his personal exertions and printed works for a knowledge of the science.

In the beginning of his inquiries, Dr Gall neither did nor could foresee the results to which they would lead, or the relation which each successive fact, as it was discovered, would bear to the whole truths which time and experience might bring into view. Having established any circumstance, he boldly affirmed its reality, without regard to any thing but truth. Perceiving, for instance, that the intensity of the desire for property bore a relation to the size of one part of the brain, he announced this fact by itself, and called the part the organ of Theft, because he found it prominent in thieves. When he had discovered that the propensity to conceal was in connexion with another part of the brain, he announced this fact also as an isolated truth, and named the part the organ of Cunning, because he found it very large in sly and fraudulent criminals. In a similar way, when he had discovered the connexion between the sentiment of Benevolence and another portion of the cerebral mass, he called the part the organ of Benevolence; and so on in regard to the other organs. This proceeding has nothing in common with the formation of an hypothesis; and, so far from a disposition to invent a theory being conspicuous, there appears, in the disjointed items of information which Dr Gall at first presented to the public, a want of even an ordinary regard for systematic arrangement. His only object seems to have been to furnish a candid and uncoloured statement of the facts in nature which he had observed;

leaving their value to be ascertained by time and farther investigation.

As soon, however, as observation had brought to light a great body of facts, and the functions of the organs were contemplated with a philosophical eye, a system of mental philosophy appeared to emanate almost spontaneously from the previous chaos.

Although, when the process of discovery had proceeded a certain length, the facts were found to be connected by relations, yet, at first, it was impossible to perceive their relationship. Hence, the doctrines appeared as a mere rude and undigested mass, of rather unseemly materials; the public mirth was, not unnaturally, excited by the display of organs of Theft, Quarrelsomeness, and Cunning, as they were then named; and a degree of obloquy was brought upon the science, from which it is only now recovering. At this stage the doctrines were merely a species of physiognomy, and the apparent results were neither very prominent nor very inviting. When, however, the study had been pursued for years, and the torch of philosophy had been applied to the facts discovered by observation, its real nature as the physiology of the brain and the science of the human mind, and its beautiful consistency and high utility, became apparent, and its character and name changed as it advanced. It is finely remarked by Middleton, that no truth "can possibly hurt or obstruct the good effect of any other truth whatsoever: for they all partake of one common essence, and necessarily coincide with each other; and, like the drops of rain which fall separately into the river, mix themselves at once with the stream, and strengthen the general current."¹

Having now unfolded the principles and method of investigation of Phrenology, I solicit the attention of the reader to one question. We have heard much of antiphrenologists; and I would ask, What does the term antiphrenologist mean? Does it mean a person who, like Lord Brougham or Lord

¹ Middleton's *Life of Cicero*.

Jeffrey, denies that the mind in feeling and reflecting uses organs at all? To such I reply, that they ought to call themselves antiphysiologists; because, as already mentioned, every physiological writer of eminence in Europe maintains, that the brain is the organ of the mind, and that injuries of it impair the mental faculties. Or does antiphrenologist mean one who admits the brain to be the organ of the mind, but contends that the whole of it is essential to every mental act? Then I request of him to reconcile with his theory the phenomena of dreaming, partial genius, partial idiocy, partial insanity, partial lesion of mental functions arising from partial injuries of the brain, and the successive development of the mental powers in youth. If antiphrenologist means a person who admits the mind to manifest a plurality of faculties by a plurality of organs, but denies that phrenologists have ascertained any of them, I ask him, Whether he disputes the three grand propositions—first, that dissection alone does not reveal vital functions; secondly, that reflection on consciousness does not reveal organs; and, thirdly, that mental manifestations may be compared with development of brain? If he denies these principles, he is beyond the reach of reason; while, if he admits them, I would ask him to state what forms of brain, and what mental manifestations, he has found concomitant in his observations? because, until he can make such a statement, his denial of the correctness of the observations of others is entitled to no consideration. But an antiphrenologist furnished with counter-facts has never yet appeared. The word, in its common signification, seems to indicate only an individual who, like the Ptolemeans in the time of Galileo, is pleased to deny that phrenologists are right, without knowing either their principles or their facts, or having any pretensions to advance the cause of truth by propounding sounder data or correcter observations of his own.

GENERAL VIEW OF THE FUNCTIONS OF THE SPINAL
MARROW AND NERVES.

BEFORE entering on the discussion of the cerebral organs, it may be useful to give a brief account of Sir Charles Bell's discoveries of the functions of the nerves. Galen, and many other authors, long ago published the conjecture, that there must be different nerves for sensibility and for motion, because one of the powers is occasionally impaired, while the other remains entire. Sir C. Bell has furnished demonstrative evidence of this being actually the fact. He has also given due prominence to the philosophical principle so urgently insisted on by phrenologists, That, in all departments of the animal economy, each organ performs only one function, and that, wherever complex functions appear, complex organs may be safely predicated, even anteriorly to the possibility of demonstrating them. The present section is derived principally from Sir C. Bell's *Nervous System of the Human Body*, 3d edition, 1836; and, as far as possible, I have adhered to his own expressions.¹ My object is to introduce general readers to a knowledge of his discoveries, detailed in professional publications which they

* The rapid strides which physiology has made within the last year or two have served to develop more fully the general correctness of Sir C. Bell's views. Dr Marshall Hall and other physiologists have, however, determined that the respiratory tract of Sir Charles is merely a part of a greater system, which has received the name of the excito-motory system, as its acts are always dependent on the application of an appropriate stimulus or cause of excitement or irritation. Thus, the muscles of respiration are called into play by the stimulus of the vitiated air in the lungs acting upon the extremities of the nerves; the stimulus is communicated to the centre of the excito-motory system in the spinal marrow, and is thence reflected upon the muscles. When, therefore, the excito-motory system is mentioned in the text, it is to be understood that the respiratory tract and nerves of Sir C. Bell are comprehended under that term.

seldom peruse. I shall omit all particulars necessary only for medical students, as Sir C. Bell's work is the proper source of instruction for them. Even the general reader will probably resort to Sir C. Bell's pages, after being informed of their interesting contents; he will find them clear, instructive, and most ably supported by evidence. Any errors or inaccuracies in the following condensed abstract, are chargeable against myself; for although in general I have followed the author's own expressions, the arrangement is greatly altered, and many additions of my own are introduced.

A nerve, says Sir Charles, is a firm white cord, composed of nervous matter and cellular substance. The nervous matter exists in distinct threads, which are bound together by the cellular membrane. They may be likened to a bundle of hairs or threads inclosed in a sheath composed of the finest membrane.

Fig. 1.

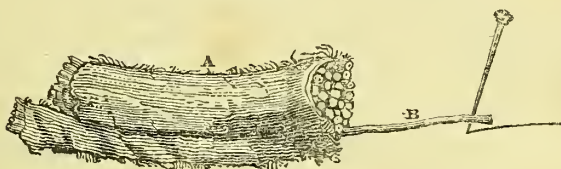


Fig. 1. represents a nerve greatly magnified for the sake of illustration, and consisting of distinct filaments. A, the nerve, enveloped in its membranous sheath; B, one of the threads dissected out. The nerves vary in thickness from the diameter of a small thread to that of a whip-cord. They are dispersed through the body, and extend to every part which enjoys sensibility or motion, or which has a concatenated action with another part.

The matter of a nerve in health and in the full exercise of its influence, is of an opaque white hue; it is soft and pulpy, between fluid and solid, and drops from the probe. When putrid, it acquires a green colour; when dried, it is

transparent. Corrosive sublimate and muriate of soda harden it; alkalis dissolve it. Each fibril of a nerve is convoluted, and runs not in a straight line, but zigzag, like a thread drawn from a worsted stocking, which has by its form acquired elasticity that it would not otherwise have possessed. Want of use either prevents the matter of a nerve from being secreted in due proportion, or changes its appearance; for the nerve then acquires a degree of transparency.

Nerves are supplied with arteries and veins, and their dependence on the supply of blood is proved by the fact, that if a limb be deprived of blood, the nerves lose their powers, and sensibility is lost. If a nerve is compressed, both the power over the muscles and the reception of sensation through it are interrupted; and when the pressure is removed, painful tingling accompanies the change. The brain, the nerves of the eye and the ear, the nerves of feeling and motion, are all affected by changes in the circulation; and each organ, according to its natural function, is *variously* influenced by the *same* cause—the rushing of blood into it, or the privation of its proper quantity.

A nerve consists of distinct filaments; but there is nothing perceptible in these filaments to distinguish them from each other. One filament serves for the purpose of sensation; another for muscular motion; a third belongs to the excito-motory system. But the subserviency of any of these filaments to its proper office, must be discovered by following it out, and observing its relations, and especially its origin in the brain or spinal marrow. In their substance there is nothing particular. They all seem equally to contain a soft pulpy matter, enveloped in cellular membrane, and so surrounded with a tube of this membrane as to present a continuous tract of pulpy nervous matter, from the nearest extremity in the brain to the extremity which ends in a muscle or in the skin.

The key to the system will be found in the simple propo-

sition, that each filament or tract of nervous matter has its peculiar endowment, independently of the others which are bound up along with it ; and that it continues to have the same endowment throughout its whole length. There is no interchange of powers between the different filaments ; but a minute filament of one kind may be found accompanying a filament of a different kind, each giving a particular power to the part in which it is ultimately distributed.

Some nerves give sensibility ; but there are others, as perfectly and delicately constituted, which possess no sensibility whatever. Sensibility results from the particular part of the brain which is affected by the nerve. If the eye-ball is pressed, the outward integuments feel pain ; but the retina experiences no painful sensation—only rings of light or fire appear before the eye. In the operation of couching the cataract, the needle sometimes pierces the retina ; the effect, however, is not pain, but to produce, as it were, a spark of fire : and, in like manner, an impression on the nerve of hearing, the papillæ of taste, or the organ of any sense except feeling, does not produce pain. The sensation excited has its character determined by the part of the brain to which the nerve is related at its root. But there are nerves which have no relation to outward impression. There are nerves purely for governing the muscular frame : these, being constituted for conveying the mandate of the will, do not stand related to an organ of sense in the brain ; hence no sensibility and no pain will be produced by them. Each of these may be said to be a nerve of exquisite feeling in one sense ; that is, it may be a cord which unites two organs in intimate sympathies, so as to cause them to act in unison ; yet, being bruised or injured, it will give rise to no perception of any kind, because it does not stand related to a part of the brain whose office it is to produce either the general impression of pain, or heat, or cold, or vision, or hearing : It is not the office of that part of the brain to which it is related to produce perception at all.

Near the conflux of the roots of the spinal nerves, there are, on the posterior roots, small reddish tumours, named **GANGLIONS**—(See D, in fig. 3. p. 91). A ganglion resembles in form the circular swellings which appear on the stalk of a straw or of a cane ; but ganglions do not rise at regular intervals on the nerves like these swellings. There are other ganglions connected with the great sympathetic nerve, which lie in a regular succession in the whole length of the spine, and, in the vertebral animals, form a regular series down each side of the spinal marrow. Other ganglions are found in the head, neck, and cavities of the chest and belly ; these are very irregular in their situation and form.

The colour of the ganglions differs from that of the nerves in being redder : they consist of the same matter with the cineritious substance of the brain.

Wherever we trace nerves of motion, we find that, before entering the muscles, they interchange branches, and form an intricate mass of nerves, which is termed a **PLEXUS**. A plexus is intricate in proportion to the number of muscles to be supplied, and the variety of combinations into which they enter. The filaments of nerves which go to the skin, and have the simple function of sensation, regularly diverge to their destination without forming a plexus. From the fin of a fish to the arm of a man, the plexus increases in complexity in proportion to the variety or extent of motions to be performed in the extremity. It is by the interchange of filaments that combination among the muscles is formed.

Different columns of nervous matter combine to form the **SPINAL MARROW**. The spinal marrow is contained in the vertebral column or back bone. It is formed previously to the brain ; and, according to the statement of M. Serres, it extends, in the human foetus, to the extremity of the *coccyx* until the third month, when it rises suddenly to a point opposite to the second lumbar vertebra. The *os coccygis*, which, previously to this period, consisted of seven pieces, suddenly becomes reduced to its permanent number, four.¹

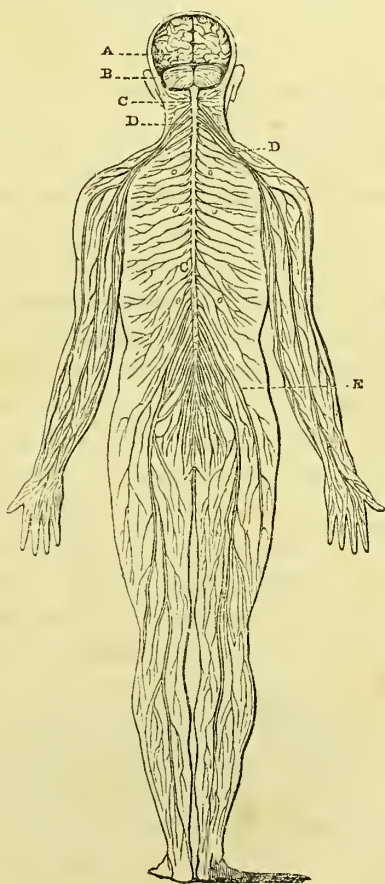
¹ *Solly on the Brain*, p. 273.

From the spinal marrow numerous nerves of sensation and motion proceed to, and are ramified on, different regions of the body. The brain and spinal marrow, however, do not give origin to the nerves. The nerves are first formed in the several parts on which they are ramified, and, in the progress of their increase, extend towards the brain and spinal marrow, and are at last joined to them.

Fig. 2.

EXPLANATION.

Figure 2 shews the connection of the nerves and spinal marrow with the brain. A is the brain, exposed by the removal of the back part of the skull. B the cerebellum. CC the spinal marrow. DD the nerves proceeding from the spinal marrow to the arms. E the nerves proceeding to the lower extremities. oooo the nerves supplying the thorax and abdomen. Although this figure has no pretensions to minute anatomical accuracy, it furnishes a good general view of the connection of the different parts of the nervous system.



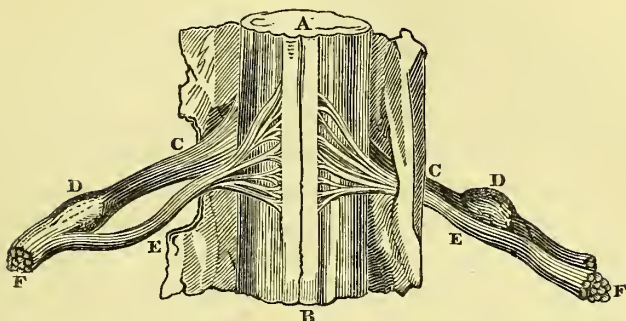
Each lateral portion of the spinal marrow consists of three tracts or columns; one for voluntary motion, one for sensation, and one for the excito-motory functions. So that the spinal marrow comprehends in all six rods, intimately bound together, but distinct in office; and the capital of this compound column is the *medulla oblongata*. As formerly observed (p. 38.), there is always a swelling of the spinal cord at the places where it gives off the largest number of nerves. In the cervical region, at which the nerves of sensation and motion of the upper extremities are given off, it is broad: it becomes narrower in the dorsal region; and it again swells and becomes broad at the lumbar region, where it gives off the nerves of sensation and motion going to the lower extremities.¹ It is proportionally larger in birds, at the part which gives off the nerves to the wings, than in the same region in fishes. This is a striking example of the principle, that wherever there is an increase of functional power, there is a corresponding increase of organic size.

The anterior column of each lateral division of the spinal marrow is for motion; the posterior column is for sensation; and the middle one is for the involuntary motions of the excito-motory system.² The two former extend up into the brain, and are dispersed or lost in it; for their functions stand related to the sensorium: but the last stops short in the *medulla oblongata*, being in function independent of reason, and capable of its office independently of the brain, or when separated from it.

¹ See Dr Gall's plate in his Atlas.

² Cruveilhier and Bellingeri deny the accuracy of Sir Charles Bell's conclusions. Bellingeri divides the spinal marrow into three double columns, and assigns motion to the front and back, and sensation to the middle; but Sir Charles Bell's views are admitted by Tiedemann and the highest authorities.

Fig. 3.



AB the spinal marrow seen in front; the division into lateral portions appearing at the line AB. The nervous cord C arises from the posterior lateral division, and gives sensibility. The swelling D is its ganglion. The nervous cord E arises from the anterior lateral division, and gives motion. It has no ganglion. These two cords combine at F, and proceed under one sheath to their destination.

Sir C. Bell struck a rabbit behind the ear, so as to deprive it of sensibility by the concussion; and then exposed the spinal marrow. On irritating the posterior roots of the nerve, he could perceive no motion consequent in any part of the muscular frame; but on irritating the anterior roots of the nerve, at each touch of the forceps there was a corresponding motion of the muscles to which the nerve was distributed. These experiments satisfied him that the different roots, and different columns from which those roots arise, are devoted to distinct offices, and that the notions drawn from the anatomy were correct.

He also performed certain interesting experiments on the fifth pair of nerves, which originates from the brain. In one of his Plates, he represents this nerve rising from two roots; one of them coming from the *crus cerebri*, corresponding to the anterior column of the spinal marrow; and the other from the *crus cerebelli*, corresponding to the posterior column of the spinal marrow. There is a ganglion on the latter branch, and none on the former; which circumstance also is in exact correspondence with the nerves

rising from the spinal marrow. The two branches combine at a short distance from their origin, and are universally distributed to the head and face. Sir C. Bell conceived that this nerve is the uppermost of those nerves which confer motion and bestow sensibility. To confirm this opinion, he cut across the posterior branch, or that which has a ganglion, on the face of an ass, and it was found that the sensibility of the parts to which it was distributed was entirely destroyed. Again, he exposed the anterior branch of the fifth pair at its root, in an ass, the moment the animal was killed ; and on irritating the nerve, the muscles of the jaw acted, and the jaw was closed with a snap. On dividing the root of the nerve in a living animal, the jaw fell relaxed. Thus its functions were no longer matter of doubt : it was at once a muscular nerve and a nerve of sensibility. And thus the opinion was confirmed, that the fifth nerve was to the head, what the spinal nerves were to the other parts of the body.

The muscles have two nerves, which fact had not been noticed previously to Sir C. Bell's investigations, because they are commonly bound up together : but whenever the nerves, as about the head, go in a separate course, we find that there is a sensitive nerve and a motor nerve distributed to the muscular fibres ; and we have reason to conclude that those branches of the spinal nerves which go to the muscles, consist of a motor and a sensitive filament.

Cruveilhier says that the proportion of the nerves of sensation to the nerves of motion differs in man, in different regions, as follows :—Cervical nerves—sensation 3 ; motion 1. Dorsal nerves, nearly equal. Lumbar nerves—sensation 2 ; motion 1.

It was formerly supposed that the office of a muscular nerve is only to carry out the mandate of the will, and to excite the muscle to action. But this betrays a very inaccurate knowledge of the action of the muscular system ; for before that system can be under the regulation of the will, there must be a consciousness or knowledge of the condition of the muscles.

When we admit that the various conditions of a muscle must be estimated or perceived, in order to be under the due control of the will, the question naturally arises, Is the same fibre of a nerve which carries out the mandate of the will, capable of conveying, at the same moment, an impression retrograde to the course of that influence, which, obviously, is going from the brain towards the muscle? If we had no facts of anatomy to proceed upon, still reason would suggest to us, that the same filament could not convey a motion, of whatever nature that motion may be, whether vibration or motion of spirits, in opposite directions, at the same moment of time.

Sir C. Bell has found, that, to the full operation of the muscular power, *two* distinct nervous filaments are necessary; the one carrying the influence of the will towards the muscle, which nerve has no power to convey an impression backwards to the brain; and the other acting as a sentient nerve to convey the impression of the condition of the muscle to the brain, but having no operation in a direction outward from the brain towards the muscle, and therefore possessing no power to excite the muscle, however irritated.

There are four nerves coming out of a track or column of the spinal marrow (the centre of the excito-motory system of Dr Marshall Hall), from which neither the nerves of sensation nor those of common voluntary motion take their departure. Experiment proves that these nerves excite motions connected with the act of respiration.

Under the class of respiratory motions, we have to distinguish two kinds; first, the involuntary or instinctive, and, secondly, those which accompany an act of volition. In sleep, we are unconscious of that state of alternation of action and rest which characterizes the instinctive act of breathing; and this kind of action of the respiratory organs, we know by experiment, is independent of the brain. But, on the other hand, we see that the act of respiration is sometimes an act of volition, intended to accom-

plish some other operation, as that of smelling or speaking. Sir C. Bell apprehends that it is this compound operation of the organs of breathing which introduces a certain degree of complexity into the system of respiratory nerves. A concurrence of the nerves of distinct systems will be found necessary to actions, which, at first sight, appear to be very simple.

If we cut that division of the fifth nerve which goes to the lips of an ass, we deprive the lips of sensibility ; so that, when the animal presses the lips to the ground, and against the oats lying there, it does not feel them ; and consequently there is no effort made to gather them. If, on the other hand, we cut the seventh nerve, where it goes to the lips, the animal feels the oats, but it can make no effort to gather them, the power of muscular motion being cut off by the division of the nerve. Thus we perceive that, in feeding, just as in gathering any thing with the hand, the feeling directs the effort ; and two properties of the nervous system are necessary to a very simple action.

After the investigation of the regular system of nerves of sensation and voluntary motion, the question that had so long occupied Sir C. Bell, namely, What is the explanation of the excessive intricacy of the nerves of the face, jaws, throat, and breast ? became of easy solution. These nerves are agents of distinct powers, and they combine the muscles in subserviency to different functions.

As animals rise in the scale of being, new organs are bestowed upon them ; and, as new organs and new functions are superadded to the original constitution of the frame, new nerves are given also, with new sensibilities, and new powers of action.

Mr Swan says that when nervous matter is destroyed, it is renewed : when portions were cut out of nerves, new nerves were generated. Some physiologists are of opinion that nervous matter is never renewed. When nerves are cut, and their ends not separated, these soon reunite. When the ends are separated, a communication, by means of cel-

lular tissue, is established between them. Nerves in limbs not used, diminish. A case of this kind once occurred to Sir C. Bell; but Andral denies that the fact is general. The optic nerve soon diminishes in blindness, and even the foramen, or opening in the skull, through which it goes, is diminished in size. Nervous substance is not rapidly, but it undoubtedly *is*, absorbed.

When a nerve of motion is injured, no pain is experienced, but motive power is lost. When a nerve of sensation is injured, pain is felt in the parts on which the nerve is ramified, *below* the situation of the injury, but not above it. When a leg or arm has been cut off, the patient often feels pain as if in the lost limb. In some cases of very severe injury to the nerves, sensation pervades them upwards. An officer, whose arm was amputated in a hovel, amidst the enemy's shot and in imperfect light, the candles having burned out, experienced, on pulling the ligatures on the nerves, at the first dressing, a horrible agony in the brain and face.

By a multitude of experiments Le Gallois and others have ascertained that the spinal marrow, and *medulla oblongata*, up as high as the *corpora quadrigemina* and the origin of the fifth pair of nerves,¹ are essential to sensation and voluntary motion.

Three fœtuses without brains have been produced: one had the spinal marrow and *medulla oblongata* complete up to the insertion of the fifth pair, but no brain. It lived three days; it cried; it voided urine and fæces; it closed its fingers when an object was placed in its hand; it swallowed food put into its mouth; and it sucked the end of the finger when inserted between its lips. Mr Lawrence records this case. The second was similar. The third lived only a few hours, but cried, moved, and gasped.

These cases shew that to sensation and motion the cerebral lobes are not necessary.

I have seen the head of a frog cut off, and observed that

¹ These parts are within the skull, and will be pointed out in the description of the brain.

the animal afterwards contracted its foot when the *skin* was irritated. (It is necessary not to irritate the muscles, because this would produce contraction from muscular contractility.) When the spinal marrow was destroyed, these contractions ceased.

A great deal of argument has been maintained, whether these facts prove that the spinal marrow is capable of the functions of *sensation* and *volition*. Le Gallois and Dr Marshall Hall¹ have taken part in these discussions. The facts shew that *excitement* passes from the skin to the spinal marrow, and that *contraction* of the muscles follows exactly as in health; but we have no proof that there is any *consciousness*; and *sensation*, as usually understood, implies consciousness. Instinctive movements seem to follow irritation of the nerves in these cases, without consciousness; just as men breathe and swallow, from excitement of the nervous system in a state of unconsciousness. Consciousness requires the brain.

Analogy would lead us to expect that all the motory nerves will be found to rise from the anterior column of the spinal marrow, or its continuation in the *corpora pyramidalia* and *crura cerebri*; and that all the sensory nerves will be found to rise from the posterior column, or its continuation in the ascending fibres of the *corpora restiformia* and *olivaria*.

¹ *Lectures on the Nervous System and its Diseases.* London, 1836.

PRINCIPLES

OF

PHRENOLOGY.

IN the Introduction, I have shewn that the brain is admitted by physiologists in general to be the organ of the mind; but that two obstacles have impeded the discovery of the uses of its particular parts. In the first place, *dissection* alone does not reveal the vital functions of any organ: no person, by dissecting the optic nerve, could find out that its office is to minister to vision; or, by dissecting the tongue, could ascertain that it is the organ of taste. Anatomists, therefore, could not, by the mere practice of their art, discover the functions of the different portions of the brain. Secondly, the mind is unconscious of acting by means of organs; and hence, the material instruments by means of which, in this life, it performs its operations and communicates with the external world, cannot be discovered by reflection on consciousness.

The phrenologist compares development of brain with manifestations of mental power, for the purpose of discovering the functions of the brain, and the organs of the mind. This course is adopted, in consequence of the accidental discovery made by Dr Gall, as already detailed, that certain mental powers are vigorously manifested when certain portions of the brain are large, and feebly when they are small. It is free from the objections attending the anatomo-

mical and metaphysical modes of research, and is conformable to the principles of the inductive philosophy.

No inquiry is instituted into the substance or essence of the mind, or into the question, Whether does the mind fashion the organs, or do the organs determine the constitution of the mind? If dissection of organs does not reveal their functions, and if reflection on consciousness fails to disclose the nature of the mind's connection with matter, no means remain of arriving at philosophical conclusions on these points; and speculative reasoning concerning them, although it may amuse the fancy, cannot instruct the understanding. Mr Stewart justly observes, that "the metaphysical opinions which we may happen to have formed concerning the *nature* either of body or of mind, and the efficient causes by which their phenomena are produced, have no necessary connection with our inquiries concerning the laws according to which the phenomena take place. . . . Whether, for example, the *cause* of gravitation be material or immaterial, is a point about which two Newtonians may differ, while they agree perfectly in their physical opinions. It is sufficient if both admit the general fact, that bodies tend to approach each other, with a force varying with their mutual distance, according to a certain law. In like manner, in the study of the human mind, the conclusions to which we are led by a careful examination of the phenomena it exhibits, have no necessary connection with our opinions concerning its *nature* and *essence*."¹ The object of Phrenology is to discover the faculties of the human mind, the organs by means of which they are manifested, and the influence of the organs on the manifestations. It does not enable us to predict actions.

A mental organ is a material instrument, by means of which the mind in this life manifests a particular power. Dr Gall's discovery leads us to view the brain as a congeries of such organs, and, in the Introduction, reasons have been assigned for regarding this proposition as sufficiently

¹ *Elements*, vol. i. Introduction.

probable to justify an inquiry into the direct evidence by which it is supported.

Before entering on this subject, however, I may remark that physiologists have a great aversion to Dr Gall's method of investigation, because they conceive it to be particularly liable to error. There is the want, they say, of that precision which is so desirable in science. There is no measure of the size of an organ. It cannot be estimated in inches, nor by weight. Again, there is no standard by which to try the force of the manifestations. They therefore reject the whole method as empirical and unphilosophical, and incapable of leading to scientific truth.

We at once admit that the two elements in our method of investigation are both in their own nature *estimative*. We cannot accurately measure the size of particular parts of the brain during life; but we affirm, that if an observer possess an average natural endowment of the observing faculties, he may, by due practice, learn to *estimate* it with sufficient precision to lead him to positive conclusions. Again, we confess that we cannot measure the force of each manifestation of the faculties by ounces or inches, but we maintain, that, by proper instruction and the exercise of the understanding, we may *estimate* it also. Phrenology, in its evidence, rests on the same foundation as the practice of medicine. The existence of disease cannot in general be determined by weight or measure, and the characters of diseases can be judged of only by their appearances, or the symptoms which they present. The organs affected,—the degree to which they are affected,—and the extent to which medicines act on them, are all *estimated* by the exercise of observation and reflection on mere symptoms. In the practice of medicine—*anatomy, physiology, and pathology*, shed their lights to help the judgment in its estimates, but they do not reveal the theory of medicine *à priori*, nor do they render it a demonstrative science.

The same general laws of evidence must necessarily apply to the study of Phrenology. The mental manifesta-

tions are not ponderable or measurable, any more than the capacity for pain or pleasure, or the powers of hearing or sight, are so. We *estimate* the degree in which these susceptibilities and capacities are possessed by different individuals, and regard our knowledge as substantial; and we must of necessity learn to *estimate* the force of the mental manifestations by a similar exercise of observation and reflection; or remain for ever ignorant of mental science. Again, the differences between the forms of particular organs, and between their sizes when large and small, are so palpable that it is absurd to deny the possibility of distinguishing them in favourable cases; and, in proving a science, we are not only entitled, but bound by the dictates of common sense, to select the simplest and the most striking cases, the *instantia ostensiva* of Bacon, as best calculated to bring the truth to light.

It must therefore be by the exercise of observation and reflection, or by the practice of the method of *estimating*, that we shall discover the primitive faculties connected with particular parts of the brain, if we shall ever discover them; and it will be only after these discoveries shall have been made, that anatomy, physiology, and pathology, will shed light on our path. Until we have followed this method, they are as little adapted by their own beams to reveal the functions of the different parts of the brain, as they are to unfold *à priori* the symptoms and best modes of treatment of diseases.

Those individuals, therefore, who object to the evidence on which Phrenology is founded and supported, appear to me not to understand the nature of the inquiry. In the phrenological books, there is as clear a specification of the localities and appearances of the organs, of the functions which they perform, and of the effects of their different degrees of development in point of size, as there is in treatises on the practice of physic of the organs affected, and the symptoms which constitute particular diseases. The authors of medical treatises do not record all the cases, by which

the propositions which they announce were first ascertained, and may still be traced. They assume that the inquirer has qualified himself, by previous study, for understanding and appreciating what they describe, and they refer him to the sick-beds of the people for verification of their remarks. We teach our student how to observe, and refer him to the active theatre of the world, where he will find faculties manifested, and developments of organs exhibited, to an unlimited extent, and we bid him verify our observations there. We refer him to prisons and lunatic asylums, and to pathological cases reported by phrenologists, for evidence of excessive, of deficient, and of diseased, manifestations. The opponents, however, object to pathological cases reported by phrenologists, because, they say, they are interested in representing them in favour of their own views.

We may truly say, in this science, that every man who is not for us, is against us; and the objection might be urged, that we cannot trust to reports made by antiphrenologists, because they are interested in finding evidence to justify their opposition. But I go farther, and maintain, that the most honest *non-phrenologist* is incapable of reporting pathological cases calculated to establish the functions of the different parts of the brain. A *non-phrenologist* is a man who has not studied Phrenology, and who is ignorant of its details. Now, such a person does not know the primitive faculties of the mind, nor their modes of manifestation; and he does not know whether different parts of the brain have or have not different functions. He cannot point to one portion of the convolutions, and say, this manifests such a power, and, when it is diseased, *this* power, and no other, will suffer. He cannot say that it is an organ at all. In short, persons ignorant of Phrenology, that is, of the functions, situations, and healthy manifestations of the mental organs, are no better qualified to report accurately pathological cases of these organs, with a view to the elucidation of their functions, than a person would be to report pathological cases of the abdomen, who knew only in general that

it contained the organs of digestion and assimilation, but without being aware that one part serves for chymification, another for chyification, another for the secretion of bile, a fourth for absorption, and so on. For these reasons, it is only phrenologists who are capable of reporting such cases, so as to give them a bearing on the subject. In the case of Mr N. (reported by Mr Craig in the *Edinburgh Medical and Surgical Journal* for October, and by me in the *Phrenological Journal* for December, 1836), Mr Craig, so far as can be discovered from his report, did not know that the function of a part of the posterior lobe of the brain, which he saw extensively injured, was to manifest Combattiveness, and, in consequence, he did not mention whether Mr N.'s temper was or was not affected by the disease of that part. I, on the other hand, knowing the function of that part in health, saw the importance of investigating this point minutely, and ascertained that the manifestations were as morbid as the organ. Again, Mr Craig reported, that Mr N. spoke ten, and knew four more languages; yet, although he had the brain in his hands, he did not report whether any particular part of it was large or small in concomitance with that great gift. Apparently he did not know, because he had not studied, where any convolution connected with that talent was to be met with. From previous study, I was aware that a certain convolution lying above each superorbital plate was regarded as the organ of a faculty for languages, and, in consequence, I earnestly observed its size, and was able to report that it was very large. I advert to this case, because it is fairly illustrative of my proposition, that a person who has not ascertained the situations of the different mental organs, and the manifestations which accompany them in a state of health, is not capable of reporting pathological cases of these organs with success. We should estimate at a very humble value pathological reports on the organs of the thorax, made by a person ignorant of the separate functions of the lungs, heart, and bloodvessels, however high his general talents

might be ; and equally valueless and inconclusive will similar reports relative to the brain in all probability appear, when made by those who are ignorant of the uses of its different parts.

I therefore respectfully maintain, not only that the principles of investigation adopted by phrenologists are sound, and adequate to attain the ends in view in employing them ; but that there is *no other* method by which the primitive faculties attached to particular portions of the brain can be discovered.

For the purpose of comparing mental faculties with cerebral development, then, it is necessary to shew, *1st*, that the mental qualities of individuals can be discovered ; and, *2dly*, that the size of different parts of the brain can be estimated during life.

Let us consider, therefore, in the first place, whether it be possible *to discriminate mental dispositions and talents*.—In regard to the Feelings, men familiar with human life and conduct have observed, that one individual is strongly addicted to covetousness,—another to cruelty,—another to benevolence,—another to pride,—another to vanity ; and they are accustomed to regard these dispositions as natural, uniform, and permanent. They have never believed that a man, by an effort of the will, can totally change his nature, or that the character is so little manifested, that a person may be prone to benevolence to-day, who yesterday was addicted to avarice ; that one who is now sinking in the lowest abasement of self-humiliation in his own eyes, may to-morrow become conceited, confident, and proud ; or that to-day an individual may be deaf to the voice of censure or of fame, who yesterday was tremblingly alive to every breath that was blown upon his character. Nay, they have even regarded these dispositions as independent of one another, and separable ; for they have often found that the possession of one was not accompanied by the presence of the

whole. Hence, in addressing any individual, they have been in the custom of modifying their conduct according to their previous knowledge of his dispositions or temper, obtained by observing his actions. To the covetous man they address one motive; to the benevolent another; to the proud a third; and to the vain a fourth. When they wish to move such individuals to act, they speak to the first, *of his personal interest*; to the second, *of the pleasure of doing good*; to the third, *of the necessity of preserving his own dignity*; and to the fourth, *of the great praise* that will attend the performance of the action recommended.

As to intellectual endowments, a person who has heard, for the most fleeting moment, the bursts of melody which flow from the throat of Catalani, cannot be deceived as to the fact of her possessing a great endowment of the faculty of Tune; he who has listened but for a few minutes to the splendid eloquence of Chalmers, can have no doubt that he is gifted with Ideality; and he who has studied the writings of Dr Thomas Brown, cannot hesitate as to his having manifested profound discriminative and analytic talent. In surveying the wonderful performances of some individuals in mechanics, poetry, mathematics, painting, and sculpture, it is equally impossible to doubt the existence of mental powers, conferring capacities for excelling in these different branches of science and art. It is equally easy to find individuals in whom the same powers are as indubitably deficient. Hence, the difficulties of determining the existence of particular intellectual talents, and their degrees of strength, are not insurmountable; especially if extreme cases be sought for—and these, as the *instantia ostensiva*, ought to be first resorted to. Men of observation have acted on these principles without hesitation, and without injury to themselves. They have not designed for the orchestra the individual whom they found incapable of distinguishing between a rude noise and a melodious sound, on the notion that “a genius for *music*” might be “ac-

quired by habits of study or of business.”¹ They do not place in difficult situations, requiring great penetration and much sagacity, individuals who cannot trace consequences beyond the stretch of three ideas; nor do they conceive that a man who has no intellectual capacity to-day, may become a genius to-morrow, or ten years hence, by an effort of the will.

They, no doubt, have observed, that the faculties are developed in succession; that the child is not in possession of the powers of the full-grown man; and that hence a boy may be dull at ten, who may turn out a genius at twenty years of age, when his powers are fully unfolded by time. But they do not imagine that *every* boy may be made a genius by “habits of study or of business;” nor do they believe, that, after the faculties are fully developed, any individual may, if he chooses, become great in a department of philosophy or science for which he had previously no natural capacity. They have observed that cultivation strengthens powers in themselves vigorous; but they have not found that education can render eminently energetic, dispositions or capacities which Nature has created feeble. They would laugh at any one who should attempt to convert an idiot into a profound philosopher. On the other hand, they have remarked, that, where Nature has bestowed a powerful disposition or capacity of a particular kind, it holds the predominant sway in the character during life, notwithstanding every effort to eradicate or subdue it. They have noticed, too, that where Nature has conferred, in an eminent degree, the faculties which constitute genius, the individual manifests his native superiority in spite of great obstacles arising from circumstances or situation. The lives of poets, painters, and artists, in every age, bear witness to the truth of this observation.

An individual, it is true, may do particular actions, or even for a time follow lines of conduct, the same in exter-

¹ Dugald Stewart.

nal appearance, from *different* internal motives. But few men can pass their whole lives in disguise, or acquire the art of *acting* in the business and enjoyments of life, so habitually and so skilfully, as not to allow their true characters to appear to those who are placed in a favourable situation for observing them: or, if there be persons who do possess this power of dissimulation, it forms the predominant feature in their mental constitution; and, as will afterwards be shewn, it is indicated by a particular form of organization. But, farther, let it be observed, that it is only in so far as the *propensities* and *sentiments* of our nature are concerned, that the display of pretended qualities is possible, even in a single case. In regard to every act which depends on the knowing and reflecting faculties, this is absolutely impracticable. No man can either write logical discourses, or trace profoundly an abstract principle, who has *not* powerful reflecting faculties. No one can compose exquisite music, who has *not* the faculty of Tune strong; or write exquisite poetry, who has *not* a powerful sentiment of Ideality. When, therefore, we perceive, even with the most transient glance, the performance of such acts, we have evidence, insuperable and irresistible, of the existence of the faculties which produce them.

These opinions have been entertained by persons conversant with society, not in consequence of logical deduction or metaphysical investigations, but from the observation of plain facts presented to their understandings. Medical men are in a situation peculiarly favourable for studying even the most hidden traits of human character. The physician, as Dr Gall remarks, has daily opportunities of knowing the most secret affairs and most intimate relations of families; and it is not easy for the man who is in the agonies of disease, or struggling with death, to throw a veil over his true character. Besides, with how many private matters are physicians confidentially made acquainted! for who would not make a friend and adviser of the man to whose care he in-

trusts the safety of himself and his family? It is to such a friend, as to one who knows and can sympathize with the failings of humanity, that men unfold the secret recesses of their souls. Gall was himself a physician.

For these reasons, I venture to conclude that the first point is established in favour of Phrenology—namely, that it is possible, by accurate, patient, and continued observation of actions, *to discover the true dispositions and capacities which individuals possess*. As this philosophy is founded on a comparison of the manifestations of these faculties with development of the brain, we now proceed to consider the second question—Whether it be possible, in general, *to discover the true form of the brain*, by observing the figure of the head?

GENERAL REMARKS ON THE BRAIN.

The anatomy of the brain is minutely described by Drs Gall and Spurzheim, in their anatomical and physiological work.¹ It is not indispensably necessary, although highly advantageous, to become acquainted with it, in order to be a practical phrenologist. A brief description of the general appearance of the brain will suffice to convey an idea of it to the non-medical reader. The proper subjects for observation are healthy individuals not beyond the middle period of life.

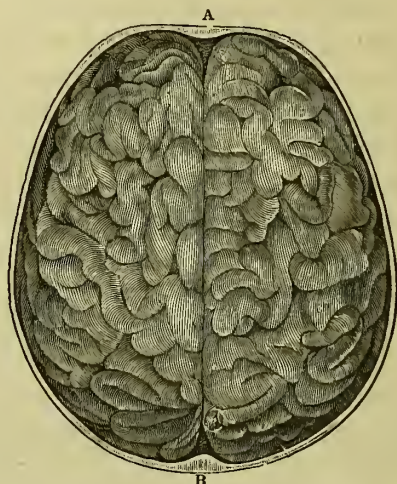
The brain, stript of its outward covering the *dura mater*, is represented in Figure 4. and Plates IV. and V. These figures (which are copied from Dr Spurzheim's plates), and the accompanying descriptions, are not intended for anatomical purposes; their sole object is to convey some conception of the appearance of the brain to readers who have no opportunity of seeing it in nature.

Figure 1. represents the upper surface of the brain, stript of membrane. The brain consists of two halves, generally

¹ *Anatomie et Physiologie du Système Nerveux*, &c. tom. i. Also Spurzheim's *Anatomy of the Brain*, &c. London, 1826.

named hemispheres, which closely resemble each other. The skull, through the middle part of which a horizontal section is

FIG. 4. UPPER SURFACE OF THE BRAIN.



made, surrounds the brain. The front is at A; and the line AB is the division between the two halves or hemispheres.

Plate IV. represents the base of the brain, as it appears when taken out of the skull; the forehead being represented uppermost.

The brain is a large nervous web, folded up into the forms presented in the drawings. The waving lines represent the convolutions or folds. They vary in depth from half an inch to an inch, in the adult.

The hemispheres are formed, previously to birth, from before backwards, and from without inwards. At first, they consist only of a thin membranous layer of nervous matter; and they increase in thickness and volume very gradually. At birth, the hemispheres are in general three inches and four lines in length, and two inches in breadth. They then present the same form as in the adult, and are covered with convolutions, separated from each other by *sulci*, furrows, or anfractuosities.

The brain exists before the skull is formed. In the fœ-

tus, it is covered by three membranes, called the *pia mater*, the arachnoid coat, and the *dura mater*; and outside of these by a cartilaginous membrane, destined to be changed into bone. In the seventh or eighth month after conception, points of ossification are formed in this membrane; these, by the deposition of new osseous particles, extend themselves in the form of rays (like the spiculæ of ice when water freezes), until solid bones are formed, the edges of which, dovetailing into each other, constitute the sutures afterwards described. (See Plate III.) In the formation of the skull, the deposition of the osseous particles on the cartilaginous membrane before mentioned, and the fact of this membrane being moulded on the brain, render it a matter of absolute necessity that the skull should be moulded on this organ. The ossification of the skull is not complete before the ninth year.

The external or cineritious substance of the brain is arranged, as we have seen, in convolutions or folds. The convolutions appear intended for the purpose of increasing the superficial extent of the brain, without enlarging its absolute size; an arrangement analogous to that employed in the eye of the eagle and falcon, in which the retina does not form a simple concave surface, as in man and quadrupeds, but is presented in folds to the rays of light; whereby the intensity of vision is increased in proportion to the extent of nervous surface exposed to their influence. The rolling up of the substance of the brain in folds in a similar manner, strongly indicates that extent of surface is highly important in reference to its functions. In fishes there are no convolutions. In birds, the hemispheres of the brain are larger than in fishes; but they are still smooth, and present no convolutions. In the rat, mouse, marmot, beaver, and even in the rabbit, the upper surface of the hemispheres is as smooth as in birds. In rising in the scale of the mammalia,¹ we find convolutions well marked. They are present

¹ *Solly on the Brain*, p. 38.

in the sheep, cat, dog, and ape, and in all the higher classes of animals.

Professor Tiedemann, in his work on the Brains of Apes and of some other animals, has accurately delineated and described the progressive diminution and final disappearance of the folds of the brain in the mammalia, from the apes down to the rodentia; and, according to Desmoulins,¹ this progression corresponds exactly with the diminution of intelligence. The most striking difference exists between the apes of the old world and those of the new. Many of the former are capable of being trained and employed for useful purposes, while the latter are incapable of instruction, and scarcely exceed squirrels in the degree of their intelligence. This corresponds with the state of the convolutions. In some dogs, especially those employed in hunting, the convolutions are scarcely less numerous and deep than in the higher tribes of apes; while in the less intelligent species, and in wolves, they exist in a much inferior degree of development. There is a great difference as to docility between dogs and cats; and an equally striking difference is found in the appearances presented by the number and depth of the convolutions of their brains—a difference so great, that Desmoulins estimates the convolutions of the dog to exceed by six or eight times those of the cat. The paucity of convolutions found in the cat prevails throughout the entire genus to which it belongs. That genus, *Felis*, which includes the cat, lion, tiger, panther, and other animals of a similar nature, is likewise remarkable for the *uniformity* observed in the number and arrangement of the convolutions in the different species; and in no genus are the species more distinguished for similarity of disposition, for through none do the faculties of Secreciveness and Destructiveness prevail in so high a degree of strength.

“In man, above all other animals, are the convolutions numerous, and the *sulci* (or furrows) deep, and, consequently,

¹ *Anatomie des Systèmes Nerveux des Animaux Vertébrés*, p. 602.

the cineritious mass great, and its extension of surface far beyond that of all other creatures.”¹

The opinion of Drs Gall and Spurzheim, that the convolutions are of great importance in reference to the power of manifesting the mental faculties, is entertained by physiologists in general.

It was long since remarked by Soemmering, that, in the earlier months of human existence, there is yet no trace of that complicated and convoluted arrangement of the cerebral surface, which is so striking in the adult brain. According to this eminent anatomist, it is only about the sixth or seventh month of gestation that the convolutions begin to appear. From this period they go on increasing in number and size, with a decreasing rapidity, even to the age of puberty.² To this progressive growth of the convolutions we have a well-marked counterpart in the gradual development of the mental powers, from the state of almost absolute nullity in which they exist in the foetus during the greater part of its intra-uterine life, to the expanded mind of the adult.

We have seen that physiologists admit that there is a diminution or increase of intelligence in the lower animals, in proportion to any subtraction from, or addition to, the number and depth of the convolutions of their brains. The old objection to Phrenology, that some animals with large brains have less intelligence than others which have small ones, might, even if the comparison of the brains of different species were strictly allowable, be sufficiently answered, not only by referring to the fact of the parts of the brain which are developed not being the same in both, but also by opposing to it the statement of Desmoulins and Magendie,³ that in numerous examinations of the brains of almost every genus of the mammalia, they found a nearly constant

¹ Bell's *Anatomy*, 7th edit. ii. 386.

² See a notice of the observations of the Wenzels on this subject, in the *Phren. Journ.* x. 342.

³ *Anatomie des Systèmes Nerveux des Animaux Vertébrés*, p. 620.

relation between the extent of surface presented by the brain in each genus, and the amount of intelligence displayed by it. Where differences occur in one of these points, differences are stated to be usually found in the other, not only between different genera, but between different species of the same genus, and also (which is most to our purpose) between different individuals of the same species.

Differences of mental character are met with to a much greater extent, and with much greater frequency, among men, than among the individuals of any species of the lower animals. It is rare, for instance, to find one sheep differing much from its companions, or one cow from another, in intelligence and instincts. The brains of men vary with respect to the number and depth of their convolutions, in a far greater degree than those of any other species.¹ This fact affords a presumption in favour of the idea that varieties of disposition depend on varieties in the convolutions.

It has been remarked, that, in most idiots, the number and depth of the convolutions are less than usual, on at least one side of the brain. In chronic insanity, too, the convolutions are sometimes diminished in depth, and are more or less separated from each other by the thickening and infiltration of the laminæ of the *pia mater* occupying the furrows of the brain. In these cases, likewise, as well as in individuals of congenital imbecility, the thickness of the cineritious substance of the convolutions has been found greatly diminished; while in acute mania, on the other hand, it has been found of the usual thickness, and highly injected with blood. In old age the convolutions shrink.

The greater part of the brain is destitute of sensibility; it may be pierced or cut without the patient being aware, from any feeling of pain, that it is suffering injury. Sir Charles Bell mentions, that he “had his finger deep in the anterior lobes of the brain, when the patient, being at the

¹ Vicq d’Azyr, *Mém. de Paris*, 1783, p. 512; cited by Meckel, *Anatomie*, &c. vol. ii. p. 646. See also Wenzel, *De penitiori Structura Cerebri*, p. 23; and Mayo’s *Physiology*.

same time acutely sensible, and capable of expressing himself, complained only of the integument." So far from thinking the parts of the brain which are insensible, to be inferior in function, Sir Charles Bell states that, as every part has its use, he should be led, even by this circumstance, to imagine that they have a higher office—namely, that they are more allied to intellectual operations. The wide difference of function between a part designed to receive such impressions as those belonging to the sense of feeling, and a part which is the seat of thought, is in accordance with the presence of sensibility in some parts of the brain, and its absence in others.

The brain receives an unusually large supply of blood, in comparison with the rest of the body. According to Haller, the quantity is one-fifth of the entire amount which leaves the heart; Monro, however, estimates it at one-tenth, and other authorities at one-eighth.

Each side of the brain, and also the cerebellum, are supplied with separate arteries conveying the blood to them; but the sinuses, or canals by means of which the blood is returned to the heart, are common to them all. The carotid artery on one side, may be tied in man, without injury to the cerebral functions. Even both carotid arteries may be tied, without serious consequences, if an interval of twelve days or upwards be allowed between the operations, to permit the distention of the other arteries.

The brain demands blood fully oxygenised. If it is not properly oxygenised, the mental functions are blunted.¹

At birth the weight of the brain is about 10 oz. Tiedemann mentions that "the weight of the brain (including the cerebellum) in an adult male European varies between 3 lb. 2 oz. and 4 lb. 6 oz. Troy. The female brain is lighter

¹ Giddiness in stooping may arise from two causes. If it is felt only when the head is down, there is pressure on the brain from too much blood. If it is not felt then, but occurs on raising the head, it is caused by the too rapid abstraction of blood from the head. There is then a deficiency of blood in the brain.

than that of the male. It varies between 2 lb. 8 oz. and 3 lb. 11 oz. I never," says he, "found a female brain that weighed 4 lb. The female brain weighs on an average from four to eight ounces less than that of the male; and this difference is already perceptible in a new-born child." Sometimes the brain is much heavier. Cuvier's brain weighed 4 lb. 10 oz. $4\frac{1}{2}$ dr.¹

Sir William Hamilton, in the appendix to Dr Monro's work on the brain, states the average weights of Scotch brains to be as follows:—

Male, 3 lb. 8 oz. Troy.

Female, 3 lb. 4 oz. do.

One male brain in 7, exceeds 4 lb.; one female brain in 100, exceeds 4 lb.

Cruveilhier states the weights of the brain in three young subjects to have been—

Brain, 2 lb. 2 oz.—Cerebellum, $4\frac{1}{3}$ oz.—total, 2 lb. $6\frac{1}{3}$ oz.

... 2 lb. 8 oz. do. $3\frac{1}{2}$ oz. ... 2 lb. $11\frac{1}{2}$ oz.

... 2 lb. 5 oz. do. 5 oz. ... 2 lb. 10 oz.

Specific gravity 130.

The human brain grows from birth upwards, but authors dispute the age at which it attains to maturity. Soemmering affirms that it stops in its growth at three years of age, and the brothers Wenzel mention seven. Dr Vimont says between twenty-five and thirty; and M. Parchappe of Paris, who published on the brain in 1836, agrees with Dr Gall in the opinion that it does not attain its full weight and size till forty. He gives the result of weighing about 250 brains.

¹ The *post-mortem* examination of Cuvier's brain took place on 15th May 1832, in presence of MM. Orfila, Duméril, Dupuytren, Allard, Bielt, Valenciennes, Laurillard, Rousseau, Andral neveu, and Bérard. It was ascertained that the superiority of size occurred almost exclusively in the cerebral lobes, particularly their anterior and superior parts; the cerebellum, &c. exhibiting no unusual development. It was stated by M. Bérard to Dr Foissac, the writer whom I follow, that none of the gentlemen present at the dissection remembered to have seen so complicated a brain, convolutions so numerous and compact, or such deep anfractuosités—"un cerveau aussi plissé, des circonvolutions aussi nombreuses et aussi pressées, des anfractuosités si profondes."—*Journal de la Société Phrénologique de Paris*, tom. ii. No. v.

The Wenzels assigned seven years as the age of complete development, on the authority of two cases only. The reader will judge which authority is most to be relied on.¹ I am convinced from observations, that the brain goes on increasing up to 28 or 30 years of age in some individuals, and in the great majority of instances up to 22 or 23. I cannot confirm its spontaneous growth to 40, but I do not deny it. I only have not observed it.

The question has been much agitated among Phrenologists, Whether, after maturity of growth, individual organs increase by exercise, and diminish by inactivity. I shall consider this point under the section "Effects of size in the organs," in Volume II.

On the approach of old age, the brain, like other parts of the body, begins to diminish; the convolutions lose their plumpness, and, as they are now shrivelled, flaccid, and less closely packed together than formerly, the anfractuositities or furrows between them become enlarged.

The CEREBELLUM, or "little brain" (F F, Plates IV. and V.,) lies under the brain. It is connected with it by means of medullary fibres; but its bulk is separated from it by a strong membrane called the tentorium.

POPULAR OBSERVATIONS ON THE STRUCTURE OF THE BRAIN.

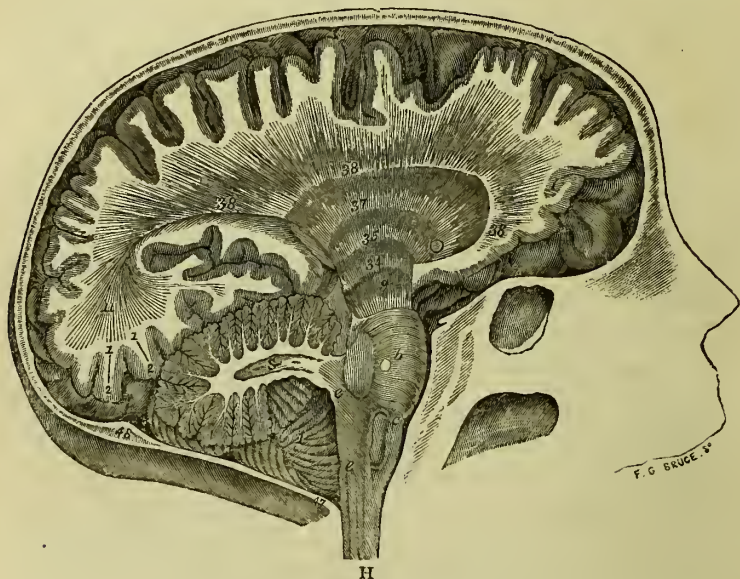
IN newly-born children, the brain is soft and pulpy, and no trace of fibres is seen in it. A fibrous texture afterwards appears, which becomes more and more obvious as the individual approaches to manhood.

The brain is composed of two substances, *cineritious* matter and *medullary* matter. In fig. 1. and Plate IV., and also in the dark folds in fig. 5, the *cineritious* substance is seen. This substance is of a grey colour, and has no fibrous

¹ See remarks on the doctrine of the Wenzels, in the *Phrenological Journal*, x. 342.

appearance. It is called cineritious, from the similarity of its hue to that of ashes ; and sometimes cortical, because it

FIG. 5. SECTION OF THE SKULL AND BRAIN.



covers the brain as bark covers a tree. The cineritious matter extends over all the upper and lateral, and over part of the inferior surfaces of the brain. It covers the white or medullary matter, and in some places is in intimate combination with it. The cineritious substance does not blend gradually with the white medullary matter, but, on the contrary, the line of distinction is abrupt, as shewn in fig. 5. The cineritious matter seems to have a greater proportion of blood circulating in it than the medullary. There is no fat or adipose substance within the skull, although it is found in every other part of the body.

The medullary matter of the brain is white and fibrous. It constitutes the inner portions of the cerebral mass. One set of fibres runs from the medulla oblongata upwards (Plate VI, H H, and fig. 5,) diverging, like the sticks of a fan, to the convolutions; and another set of fibres runs from side

to side of the brain, as will be afterwards described. The first set of fibres is represented by the radiated lines in Plate VI. and fig. 5.

It is an important question, what particular functions the medullary matter and the cineritious matter respectively perform in the manifestation of the mind. The opinion is becoming prevalent, that the cineritious matter is essentially the organ of the mind, and that the fibrous medullary matter is an apparatus of communication, by means of which the different mental organs are brought into co-operation, and also enabled to influence the other portions of the body. Drs Gall and Spurzheim attached much importance to the convolutions, and considered the depth, size, and number of them, to have a great effect on the intensity of the mental manifestations; but it does not appear that they regarded the cineritious substance as exclusively the organ of the mind. "Dr Gall and I," says Spurzheim, "suppose that each nervous apparatus is composed of the two peculiar substances, the pulpy and the fibrous, and that both are necessary to produce an instrument adequate to perform a particular function."¹

Sir Charles Bell observes, that "whatever we observe on one side has a corresponding part on the other; and an exact resemblance and symmetry is preserved in all the lateral divisions of the brain. And so, if we take the proof of anatomy, we must admit, that, as the nerves are double, and the organs of sense double, so is the brain double; and every sensation conveyed to the brain is conveyed to the two lateral parts, and the operations performed must be done in both lateral portions at the same moment."² This statement of Sir Charles Bell is not rigidly correct. There is a general correspondence between the parts on the opposite sides of the brain, but not "an exact symmetry"

¹ *Anatomy of the Brain*, p. 10.

² *Anatomy*, ii. 381. An ingenious paper by Mr Hewett C. Watson, on the probable object of the duplicity of the brain, will be found in *The Phrenological Journal*, vol. ix. p. 608. See Mr Forster's conjectures, in his *Observations on the Influence of the Atmosphere on Health*, &c., Section xiv.

in the strict sense of these words. The approximation to symmetry is about as great as between the bloodvessels in the right and left arms. In some individuals there are slight variations in the size and constitution of corresponding organs on the two sides of the body. The muscle named *transversus perinæi*, in the perinæal region of the abdomen, is sometimes much larger on one side than on the other. The muscle called *pyramidalis abdominis* is occasionally wanting on one side, sometimes on both sides. Two muscles of this kind have been seen on one side, and none on the other. The *psoas parvus* muscle, in the interior of the abdomen, is subject to the same irregularity, and these aberrations may not be discovered during life. The *palmaris longus* muscle, inserted in the palm of the hand, is frequently wanting. The *plantaris* muscle, running between the *gastrocnemius* and *soleus* muscles, which compose the calf of the leg, and which is inserted, tendinous, into the *plantar facia*, is sometimes wanting. Mr Solly¹ mentions that the posterior division of the auditory nerve, "on crossing the posterior fissure of the cord or fourth ventricle, forms by its separation three or four white lines, which are usually very distinct. Meckel,² however, states that he has sometimes found the whole of these lines deficient, sometimes on one side and sometimes on both, and that Prochaska and Wenzel have observed them to differ on the two sides of the brain." When, therefore, I mention that slight differences occur between the organs on the two sides of the brain, it will be seen that the brain, in this respect, forms no exception to a general law of the animal economy.

The two sides or hemispheres of the brain are brought into communication by means of numerous fibres, called *commissures*, running across from the one side to the other. The largest is called the *corpus callosum*, and it crosses below the lower edge of the falciform process of the *dura mater* (see figure p. 122). There is a transverse nervous

¹ *On the Brain*, p. 254.

² *Anatomie*, tome ii. p. 614, n.

cord which crosses in the anterior lobe, called the *anterior commissure* ; besides several others. The posterior and anterior regions of the brain are also brought into communication by fibres extending from the front to the back. The *superior longitudinal commissure* lies, in each hemisphere, immediately above the *corpus callosum*, and touches the mesial line. A long convolution will be seen there, and by scraping off the cineritious matter in a prepared brain, longitudinal fibres will be perceived passing from the posterior to the anterior lobes.¹ The *fornix* constitutes an inferior longitudinal commissure, connecting the inferior portions of the anterior and posterior lobes.

The organs, including their supposed apparatus of communication, extend from the surface of the brain to the medulla oblongata : each organ has been likened to a cone, of which the apex lies in the medulla oblongata and the base in the surface of the brain. In proportion to the diameter of the organ at the inner surface of the skull, is the thickness or number of the fibres contained in it. This is proved by the constant relation between the size of the anterior lobe of the brain, devoted to intellect, and that of the *corpora pyramidalia* (*c*, fig. 5, p. 116), from which, as roots, an uninterrupted line of fibres can be traced, expanding at length into the convolutions of the anterior lobe ; as also by the relation between the thickness of the posterior bundle of the *crus cerebri* (*g*, fig. 5. p. 116), and the size of the posterior and middle lobes of the brain. But I introduce the similitude of a cone merely as a popular illustration, and not as a technical description of the appearance of the organs ; for they are not separable into definite figures, such as this comparison, if literally understood, might seem to imply.

No lines of demarcation between the organs have yet been discovered in dissecting the brain. But the same difficulty presents itself in regard to the spinal marrow. The fact that one column of the spinal marrow serves for voluntary motion, and another for sensation, is admitted by the best physiologists as indubitable ; yet no line of demarcation

¹ See Solly *On the Brain*, Plate x.

between them has yet been pointed out. "The circumstance," says Mr Solly, "of there being no decided anatomical line of division between the two columns, is not of itself an argument against the correctness of this view (namely, that they perform different functions); for it is quite possible that perfect distinctness of parts, as regards their function, without any visible line of separation between them, may exist. . . . The presence of such gross and palpable partitions, it is true, would save us some trouble, in discovering the line of demarcation, but would not necessarily make it in any degree more efficient."¹

The forms of the organs delineated on the bust, are, however, not arbitrary. When any particular organ predominates in size over all those in contact with it, it gives a particular form to the part of the skull which covers it, and the forms thus evolved have been copied in the bust, and on the plates. No one natural head can shew the forms of all the organs distinctly, because they cannot all predominate in one head; but if a sufficient number be appealed to, complete evidence will be obtained that the forms are not imaginary but natural. Firmness will shew its form in one skull (that of King Robert Bruce, for instance), Conscientiousness in another (Mrs H.), Benevolence in a third (Jacob Jervis), and so forth.

OF THE INTEGUMENTS OF THE BRAIN.

I have already remarked, that the brain is embraced in its whole peripheral extent by a very thin transparent and delicate membrane called the *pia mater*; this sinks down into its furrows, and serves to convey the blood-vessels to its different parts. Immediately above the *pia mater*, are two layers of a still thinner membrane, resembling in its tenuity a spider's web, and thence named the

¹ *On the Brain*, p. 153. See remarks on this subject by Mr Hewett Watson, *Phren. Jour.* xii. 405.

tunica arachnoidea. It covers the surface of the brain uniformly, without passing into its folds. A fluid secretion takes place from the opposed surfaces of this membrane, by which they are lubricated and prevented from adhering to each other. The *dura mater* is a thin but strong opaque membrane, lining and strongly adhering to the inner surface of the skull, and which embraces the outer surface of the brain above the membrane last mentioned. When in health, it does not possess sensibility, and has been pricked without causing pain. The brain, enclosed in these membranes, fills exactly the interior of the skull; so that a cast, in plaster, of the interior of the skull, is a *fac simile* of the brain, covered by the *dura mater*. Between the two layers of the arachnoid membrane a very small quantity of fluid is said to exist, but not exceeding a line in thickness. This fluid does not, in any degree that can be distinguished by the hand or eye, cause the form of the interior of the skull to differ from the form of the exterior of the brain.

The skull, or *cranium*, is the bony covering which incloses the brain. Its Latin name *cranium* has served as the root of several words used chiefly by opponents to designate Phrenology and its advocates; such as *craniology*, *craniocopy*, *craniologist*, &c. These are improper appellations, and serve only for purposes of ridicule.

The skull is not an adamantine barrier, confining the brain within specific boundaries; but a strong yet changeable covering, shielding it, and accommodating itself to its size while in the progress of its growth.¹ At birth it is small; it increases as the brain increases, and alters its shape with every change of the cerebral form; it stops in development when the brain has attained its full size, and diminishes when the size of the brain suffers diminution, as happens in old age and disease.² A process of absorption and depo-

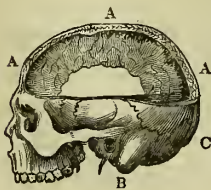
¹ On the admirable fitness of the skull to protect the brain, see *The Phrenological Journal*, viii. 332.

² Cases of diminution of the skull will be found in *The Phrenological Journal*, ix. 468-470.

sition goes continually on in its substance ; so that, if the brain presses from within, the renovating particles arrange themselves according to this pressure, and thus the figure of the skull and that of the brain in general correspond. In cases of water in the head, the skull sometimes extends itself by this process to an enormous size.

The skull is composed of nine bones. (See Plate III. and description of it.) These are—two *frontal* bones E, which compose the forehead, and generally soon unite into one, though in some adults they continue double ; two *parietal* bones D, forming the greater part of the upper and lateral regions of the skull ; two *temporal* B, around the ears ; one *sphenoid* A, in the anterior part of the basilar region ; one *occipital* C, in the back and under part of the skull, immediately above the neck ; and one *ethmoidal*, at the base behind the nose. The lines of junction of these bones are termed sutures SSS, and form, in most parts, a sort of dovetailing. The principal sutures are the *sagittal*, separating the two parietal bones at the middle of the top of the head ; the *coronal*, which divides the frontal from the parietal bones ; the *lambdoidal*, between the occipital bone and the two parietals, and deriving its name from its resemblance to the Greek letter lambda (Λ) ; the *frontal*, dividing the two frontal bones when they are not conjoined ; and the *temporal*, named also the *squamous* from its scaly appearance, dividing the temporal bones from the parietal, and to some extent from the sphenoid and occipital.¹

The annexed figure represents a skull with the two sides cut away, down nearly to the level of the eyebrow, leaving a narrow ridge in the middle of the top standing. AAA is a section of the skull, resembling an arch. It is here represented thicker than it is in nature, in order to shew the diploë. Most parts of the skull consist of two plates called the



¹ Mr Anthony O'Neil, West Register Street, Edinburgh, sells a cast of the skull, accompanied by an explanatory card, pointing out all the bones,

outer and inner tables, having between them a spongy substance, like cells in a marrow-bone, called the *diploë*. The substance hanging down from the arch of the skull, having delicate lines traced on it, like the sap-vessels in leaves, is the membrane which separates the two halves of the brain. It is a continuation of the *dura mater*, and is called the *falciform process*, from its resemblance to a scythe. It is well supplied with blood-vessels; and a large portion of the blood returning from the brain to the heart, goes up these vessels into a canal formed by the membrane all along the line of its attachment to the skull. The course of the blood through the canal is from the front backwards, and then downwards. The two hemispheres of the brain are completely separated, as far as this membrane is seen to extend downwards in the cut. At the lower edge of it, an open space appears:—the commissure, or collection of fibres which unite the two sides, named the *corpus callosum*, goes through that space. The cerebellum lies at B C, in a part of the skull not opened. The membrane, on reaching the point C, spreads out to the right and left, and runs forward, so as to separate the cerebellum from the brain; the latter lying above, and the former below it. B is the mastoid process, or bone to which the sterno-mastoid muscle is attached. It lies immediately behind the opening of the ear, and is not connected with the brain.

As the *diploë*, except in the parts to be mentioned, is almost equally thick, it follows that the two tables of the skull are nearly parallel to each other. This is seen in the section represented in fig. 5, p. 116. The internal, indeed, bears some slight impressions of bloodvessels, glands, &c., which do not appear externally; but these are so small as not to interfere with phrenological observations. The departure from perfect parallelism, where it occurs, is limited to a line, one-tenth or one-eighth of an inch, according to

sutures, and processes, with their names; which will render the subject more intelligible than any description.

¹ See Dr Caldwell on the parallelism of the tables, *Phren. Jour.* ix. 222.

the age and health of the individual. The difference in development between a large and a small organ of the propensities and some of the sentiments, amounts to an inch and upwards; and to a quarter of an inch in the organs of intellect, which are naturally smaller than the others.¹

The squamous portion of the temporal bones is much thinner than the other parts of the skull. But as this is the case in all heads indiscriminately, it is not a source of error to the phrenologist. Every skull, moreover, is thick at the ridges of the frontal bone and the transverse ridge of the occipital (48, fig. 5, p. 116), and very thin at the super-orbital plates of the frontal bone, forming the roof of the sockets of the eyes,—and also in the middle of the occipital fossæ. Dr Gall states that sometimes the skulls of very stupid people are unusually thick;² and Dr Vimont has frequently observed the same thing to occur in persons of an athletic constitution.³ In savages the skull is often thick.⁴

The integuments which cover the skull on the outside, indisputably lie close upon its surface, and are so uniform in their thickness, as to exhibit, with sufficient accuracy, its true figure. The temples and occiput are the only parts where the integuments are thicker than at the others, and the phrenologist attends to this fact in making his observations.

¹ “Jamais je n’ai prétendu distinguer des modifications peu prononcées des formes du crâne, ou de légères nuances du caractère.”—Gall, iii. 41.

² Tome iii. p. 43.

³ Vol. i. p. 285.

⁴ “A comparison of the external and internal surfaces of the cranium establishes the fact, that there is a general correspondence of the two, as far as regards those parts which are in contact with the periphery of the brain. But, between the several divisions of that organ, there are developed on the inside of the skull very large ribs and processes which destroy the particular correspondence of the two surfaces. Nevertheless, this does not impair our ability to deduce the internal capacity of the cranium from an examination of its exterior; since the diploë between the two plates in the spaces intermediate to these ribs, seldom varies more than one or two lines in its thickness.”—*Cyclopædia of Anatomy and Physiology*, edited by Professor Todd; Article *Cranium*.

Thus there is no obstacle in general to the discovery of the figure of the brain, by observations on the form of the skull or head.

This doctrine has been frequently disputed by opponents of Phrenology; but many anatomists have taught it. Cuvier states, that "The brain moulds itself in the cavity of the skull, which *it fills exactly*, in such a manner that knowledge of the bony part gives us information at least of the *form of the exterior of the brain*." ¹ Magendie, in his *Compendium of Physiology*, says, that "the only way of estimating the *volume of the brain* in a living person, is to *measure the dimensions of the skull*; every other means, even that proposed by Camper, is uncertain." ² Sir Charles Bell also observes, that "the bones of the head are moulded to the brain, and the peculiar shapes of the bones of the head are determined by the original peculiarity in the shape of brain." ³ And Dr Gordon, in the 49th number of *The Edinburgh Review*, has the following words:—"But we will acquiesce implicitly for the present in the proposition (familiar to physiologists long before the age of Gall and Spurzheim), that there is, in most instances, a general correspondence between the size of the cranium and the quantity of cerebrum; that large heads usually contain large brains, and small heads small brains." (P. 246.)

There are, however, cases in which it is *not* possible to discover the form of the brain by examining the skull. These are instances of disease and old age. In disease, the

¹ *Anatomie Comparative*, ii. 13.

² Milligan's Translation, p. 104.

³ Bell's *Anatomy*, ii. 390. Sir C. Bell adds in a foot-note, "Certainly the skull is adapted to the form of the brain; but there is a deeper question, which our craniologists have forgotten,—Is the brain constituted in shape with a reference to the future form of the head?" It is difficult to see the importance of this question. Not only is the skull, at every period before the decline of life, adapted to the form of the brain, but it increases in size when the brain enlarges, and decreases when the brain diminishes. The reader will find an answer to Sir Charles Bell's objections in *The Phrenological Journal*, viii. 333.

skull may be enlarged or diminished in volume by other causes than changes of the brain; and in old age, the inner table of the skull sometimes sinks, while the outer table preserves its original size, and an extraordinary thickness is produced: in such cases, the true development of the brain cannot be accurately inferred from the appearance of the head.¹ It is a common trick with the opponents of Phrenology to collect these thickened skulls, and to represent them as average specimens of healthy crania, under the middle period of life; but this is pure deception, practised on that portion of the public which is unacquainted with anatomy.

There are parts at the base of the brain, in the middle and posterior regions, the size of which cannot be discovered during life, and whose functions in consequence are still unknown. From analogy, and from some pathological facts, they are supposed to be the organs of the love of life, and of some other mental affections for which cerebral organs have not been discovered; but demonstrative evidence to this effect being wanting, the conjecture is stated merely to incite to farther investigation.

The sutures interrupt the absolute parallelism of the tables; but their situation is known, and only one of them, the lambdoidal, where it passes over the organ of Concentrativeness, presents any difficulty to the student. In some individuals it occasions at that part a bony projection, which

¹ According to Dr Gall, the skulls of aged people are generally thicker, lighter, and more spongy, than those of young men and adults: but Dr Vimont thinks that farther observations are necessary to determine whether this is the most frequent appearance.—(Gall, iii. 50; Vimont, i. 288.) Sometimes, in extreme old age, portions of the outer table and diploë are absorbed and not renewed, so that the skull becomes, in various parts, very thin and transparent. There is such a skull in the collection of the Phrenological Society, and Dr Gall possessed several specimens. (Gall, iii. 53; and *Phren. Jour.* vii. 28.) That the skull becomes thin in old age by absorption is maintained also in a work called *Anatomia Senilis*, published in 1799. According to Tenon, the skull loses two-fifths of its weight in old age. (*Memoirs of the French Institute* for the year 6.)

may be mistaken for a large development of Concentrativeness; but the bone is generally sharp and angular, whereas the development presented by the organ when large is full and round. The sagittal and frontal sutures, which run longitudinally from the back part of the crown of the head forwards and downwards, sometimes so low as the top of the nose, occasionally present a narrow prominent ridge, which is sometimes mistaken for development of the organs of Benevolence, Veneration, Firmness, and Self-esteem. It may, however, be easily distinguished by its narrowness and isolation from the full broadswell of cerebral development. In anatomy, projecting bony points are called processes. The mastoid process of the temporal bone (B in figure, p. 122), which is a small knob immediately behind the ear, serving for the attachment of a muscle, is sometimes mistaken for the indication of large Combativeness. It is, however, merely a bony prominence, which is found in every head, and does not indicate development of brain at all. Another process, called by anatomists the spinous process of the transverse ridge of the occipital bone, requires to be known. Phrenologists generally name it shortly the occipital spine, and its situation is indicated by C in the figure, p. 122.

There is one part of the skull where the external configuration does not always indicate exactly the size of the subjacent parts of the brain, and upon which objections have been raised. At the part of the frontal bone immediately above the top of the nose, a divergence from parallelism is sometimes produced by the existence of a small cavity called the *frontal sinus*.

The frontal sinus is the dark hole seen in the annexed cut above the nose. It does not in general appear before the age of twelve; and as the organs over which it may subsequently be formed, are well developed and very active before that age, there is no obstacle to our comparing their size with the vigour of the mental manifesta-



tions, before the sinus exists. We are thus able to determine the functions of these organs with certainty. After puberty it is generally present. Beclard remarks, that "the frontal sinuses are not formed till after birth. Towards twelve years of age only the rudiments of them exist, and they appear only as cells a little larger than the others in the ethmoidal bone. They go on increasing with age, and extend themselves, at the same time, in the frontal and orbitary portion of the bone, which sometimes they entirely cover."¹ Its size in one individual is shewn in the cut; it is sometimes larger and sometimes smaller than that here represented. It is formed between the two tables of the bone, either by the external table swelling out a little without being followed by the internal, and presenting an appearance like that of a blister on a biscuit, or by the internal table sinking in without being followed by the external.

It has been argued by some individuals, that the existence of a frontal sinus is an insuperable objection to Phrenology in general, because it throws so much uncertainty in the way of our observations as completely to destroy their value. Other opponents, however, more rationally confine their objection to those organs over which the sinus extends.

The first objection is manifestly untenable. Even granting the sinus to be an insuperable obstacle in the way of ascertaining the development of the organs over which it is situated, it is plain that, in ordinary cases, it interferes with only a few, namely, Form, Size, Weight, Individuality, and Locality; and that the whole external appearances of the other thirty or thirty-one organs are left as unaltered as if no frontal sinus existed. It would be quite as logical to speak of a snow-storm in Norway obstructing the highway from Edinburgh to London, as of a small sinus at the top of the nose concealing the development of Benevolence, Firmness, or Veneration, on the crown of the head.

¹ *Dictionnaire de Médecine*, ix. 504.

To enable the reader to form a correct estimate of the value of the objection as applicable to the individual organs particularly referred to, I offer the following observations. In the *first* place, below the age of twelve or fourteen, the sinus, if it exists at all, rarely extends so high as the base of the frontal lobe of the brain; *secondly*, in adult age, it frequently occurs to the extent above admitted;¹ and, *thirdly*, in old age, and in diseases such as idiocy and chronic insanity, it is often of very great extent, owing to the brain diminishing in size, and the inner table of the skull following it, while the outer remains stationary. The first cases present no objection, for in them the sinus does not exist so high as to interfere with the observation of the size of the organs; the third are instances of disease, which are uniformly excluded in phrenological observations; and thus our attention is limited solely to the cases forming the second class. In regard to them the objection is, that large development of brain, and large frontal sinus, present so nearly the same appearance that we cannot accurately distinguish them, and that therefore our observations must be inconclusive.

To this the following answer is given. In the first place, we must distinguish between the possibility of *discovering the function* of an organ, and the possibility of applying this discovery practically in *all* cases, so as to be able, in every instance, to predicate the exact degree in which every particular mental power is present in each individual. As al-

¹ This may seem at variance with a statement given in the first edition of this work, on the authority of a friend in Paris, who, in the course of many months' dissections, had never found a frontal sinus except in old age and in disease. In sawing open the skull for anatomical purposes, the section is almost always made horizontally through the middle of the forehead, or over the organs of Tune, Time, and Eventuality; in all the cases alluded to by the gentleman in Paris, this line was followed, and as the sinus rarely extends so high up, he could not, and did not, meet with it. On examining vertical sections, however, for the purpose of seeing the sinus, he has since frequently found it to the extent mentioned in the text.

ready mentioned, the sinus does not, in general, extend so high as the brain until after the age of twelve or fourteen, before which time Individuality is most conspicuously active in the mind. If, then, in children, in whom no sinus exists, that mental power is observed to be strong when the part of the head is large, and weak when it is small, we *ascertain the function*, whatever may subsequently embarrass us. If in after life the sinus comes to exist, this throws a certain impediment in the way of the practical application of our knowledge; and accordingly, phrenologists admit a difficulty in ascertaining the development of the organs lying immediately above the top of the nose, except in extreme instances, in which even the sinus itself forms but a fraction of the difference between great development and deficiency.—In the next place, the objection applies only to one set of cases. If there be a hollow or depression in the external surface of the skull at the situation of the organs in question, and the sinus be absent, then the organ must necessarily be deficient in proportion to the depression. If, with such an external appearance, the sinus be present (which is not generally the case, but which, for the sake of argument, I shall suppose), then it must be formed by the inner table receding more than the outer table: hence a greater deficiency of the organs will actually exist than what is externally indicated; and, of course, the deficiency of mental power will be *at least equal* to that which is indicated by the exterior of the head. In cases of this kind, therefore, the sinus forms no objection. Thus the only instances in which it can occasion embarrassment are those where it causes a swelling outward of the parts of the skull in question, when there is no corresponding development of brain within. Now, if, in all cases in youth, when no sinus exists, and in all cases in mature age in which a depression is found, the mental power is ascertained to correspond with the external development; and if, in certain cases in adult age, an external indication appears to which the mental power does not correspond, what conclusion

ought to be drawn according to the rules of a correct logic? Not that the functions of the parts are uncertain—because they have been ascertained in cases not liable to impediment or objection; but only that, in the particular cases in mature age in which external development is large, and the corresponding power absent, *there must be a frontal sinus*.

Finally, after practice in observing, it is in general possible to distinguish between external appearances produced by a frontal sinus, and those indicating a large development of organs. In the former case, the elevations are usually more abrupt and ridgy; and in the latter, they present a rounder swell, and follow the direction of the organs as delineated on the busts.

If, then, men in general manifest their natural qualities in their actions; and if, in healthy individuals, not beyond the middle period of life, the form of the brain may be discovered by observing the figure of the head; it follows that the true faculties, and the true cerebral development, may be compared in living subjects: and on these grounds the proposition is established, that the phrenological mode of philosophising is competent to enable us to attain the results sought for.

Before proceeding to the practical application of the principles of Phrenology, I subjoin a few remarks on the *anatomy* of the brain, which Dr Fossati has added to his French translation of my *Elements of Phrenology*.

ANATOMY OF THE BRAIN.

As already remarked, it is not indispensably necessary, although it is highly advantageous, to become acquainted with the structure of the brain, in order to become a practical Phrenologist. I shall, therefore, here present a brief outline of the structure, so far as a popular reader may be supposed to be interested in it. Dr Fossati (*Nouveau Ma-*

nuel de Phrénologie, par George Combe, traduit par le Docteur J. Fossati ; Paris, 1836) says, “ It is necessary to remember, 1st, That the whole nervous system results from two substances : one of a grey colour, more or less varied, and gelatinous or granulous ; the other white and fibrous. The nerves and the nervous filaments are constituted of the white matter. 2dly, From the grey substance spring the nervous filaments, and the more abundant that substance is, the more of these fibres are produced. 3dly, The different nervous systems do not arise one from the others, but each takes its origin in its own proper mass of grey matter, and they, besides, differ essentially from each other. Apparatuses of communication exist every where which place them in relation with each other. 4thly, All the nervous systems are capable of producing sensations in the brain, but each system receives and transmits a determinate sensation or irritation which is peculiar to it. 5thly, The functions of each nervous system are manifested only in proportion to the development of its parts ; and the strength of the manifestations is, in general, in direct relationship to this development, or, to speak more clearly, to the respective masses.

“ Let us return to the anatomical part of our subject. In order to know sufficiently the structure of the brain, and to comprehend the mutual relationship of the different parts which compose it, it is necessary to commence the dissection of it by its base. Dr Gall was the first who abandoned the old method of cutting it in slices, and who set himself to examine each part in starting from the origin of its fibrous bundles, which he saw arising from the grey substance, and in following out their course to their final expansion. By this means he was able to recognise the successive reinforcements furnished in their progress by their meeting with different masses of grey substance, and he succeeded in unfolding the whole substance of the brain in the form of a membrane. Dr Spurzheim, his fellow-labourer, assisted him in his researches.

“I have seen several physicians embarrassed in extracting the brain uninjured from the cavity of the skull. The following method may be pursued :—Begin by making a crucial incision in the integuments, from the front to the occiput, and from the one ear to the other ; then separate and pull down the parts, and also the muscles which cover the temples. If it is desired to preserve the cranium, it must be sawed, by passing the instrument along the frontal bone, the temples, and the middle part of the occipital bone. In the opposite case, it may be broken in a circular direction with the sharp edge of a hammer in order to lift up the skull-cap. There is much less risk of injuring the cerebral membranes and the convolutions in opening the skull by blows of a hammer than in making use of the saw, and no alteration of the internal organization ensues from it. When the top has been raised, the dura mater should be cut from each side of the longitudinal sinus, from the front to the back, and transversely from the middle of the superior portion down to the ears. The falx should be detached in the frontal region and turned back. The top of the head should then be made to hang downwards, in such a manner that the palm of the hand may be applied to it and receive the brain. The middle and frontal lobes are easily disengaged. We cut successively the nerves which present themselves, namely, the bulb of the olfactory nerve, the optic nerves, and the motor nerves of the eye ; and the head should be inclined first to the one side and then to the other, in order to cut carefully the tentorium, in removing the hemispheres. After this the nerves and bloodvessels situated under the *pons Varolii* should be separated, and the spinal marrow cut as low as possible below the great occipital hole. The cerebellum should then be disengaged with the fingers of the one hand, while the whole mass of the brain, which we lift from the skull, is sustained by the other ; care being always taken not to allow any of the parts to be torn. This being accomplished, the brain may be placed on a table, first on its base, in order to observe its exterior.

“The brain in its natural state completely fills the cavity of the skull. The form which it represents is that of a spheroid elongated at the upper part, narrower at the front than behind. In the brain we observe a superior and anterior mass, called the *hemispheres* (Plate IV, AC, AC), and an inferior and posterior portion, not so large, called the *cerebellum* (FF).

“Each hemisphere is divided into three portions, which are named *lobes*. The anterior lobe (Plate IV, AA) rests on the vault of the orbits, and is separated from the middle lobe by a deep furrow (*ee*). The middle lobe (BB) is scarcely separated from the posterior (CC). This last is situated partly in the internal temporal fossæ of the skull, and partly on the tentorium of the cerebellum.

“On all the surfaces of the hemispheres, we perceive *convolutions*, larger or smaller, and more or less projecting. They are separated from each other by winding furrows called *anfractuosities*, into which the *pia mater* descends, while the two other membranes, the *arachnoid* coat and the *dura mater*, pass directly over the convolutions, and envelope the whole brain.

“All the parts which compose the brain are double, each part on the one side having a counterpart on the other. They are not exactly symmetrical, one of the sides being in general a little larger than the other. The bundles of the same kind of each side are joined together, and brought into reciprocal action, by transverse nervous fibres, which are called *commissures*.

“The *cerebellum* is a nervous mass separated from the *hemispheres*. It occupies, as we have already observed, the posterior and inferior parts of the cavity of the skull (see Plate V, F). It is enclosed in the space which lies between the transverse fold of the *dura mater* called the *tentorium*, and the inferior *fossæ* of the occipital bone. Its form is globular, more extended to the sides than from the front to the back. The furrows which appear on the external surface of the cerebellum are deep; they closely approach each

other, and are not tortuous, as in the brain : The cerebellum has *laminæ*, or leaves, in place of convolutions, which last belong only to the hemispheres.

“ To become acquainted with the structure of the brain, it should be turned over, and dissected by its base. Externally, we see the situation and emergence of the different nerves, such as (Plate IV.) 1. the olfactory nerve at the front ; then successively, 2. the optic nerve ; 3. the motor nerve of the eye ; 4. the pathetic nerve ; 5. the *trigeminal* ; 6. the abductor of the eye ; 7. the facial ; 8. the auditory ; 9. the glosso-pharyngeal ; 10. the vocal ; 11. accessory nerves. GG is the *pons Varolii* ; HH, the *medulla oblongata*, with (*ss*) the *corpora olivaria*, (*rr*) the *corpora pyramidalia*, and (*tt*) the *corpora restiformia*. See description of Plate IV. for more minute particulars.

“ The dissection is accomplished not by cutting, but simply by separating, by carefully scraping, with the flat handle of a scalpel, the parts which ought to be brought into view.

“ The roots of the *cerebellum*, and those of the hemispheres of the brain, arise from different masses of grey matter situated in the interior of the *medulla oblongata*, which comes immediately after the posterior cervical nerves. These primary fibrous roots continually increase in size in advancing forwards ; they meet the masses of grey substance which are called ganglions, which furnish them with new nervous bundles, and they extend themselves, thus reinforced, to the peripheral surface, and terminate in the *laminæ* of the *cerebellum* and the convolutions of the brain.

“ As to the cerebellum ; the first nervous fibres spring from the superior *corpora restiformia* to enter the cerebellum. They meet a mass of grey substance called the *corpus dentatum* (Plate VI. *a*), and there reinforced by new fibres, they lose themselves in the *laminæ*.

“ In regard to the *brain* ; the *corpora pyramidalia* (Plate IV. *rr*) and *corpora olivaria* (*ss*) furnish the first nervous fibres of it. These pass under the annular protuberance,

or *pons Varolii* (Plate IV. GG), and are reinforced in their passage by new fibres, and especially at their meeting with the *optic thalami* and the *corpora striata* (Plate VI. h), until they expand themselves in large masses into the cerebral convolutions AA.

“At this place the cerebral fibres join the apparatus of reunion, the primitive fibres of which have their origin in the grey cortical substance which covers the same convolutions and the *laminæ* of the cerebellum. This is the origin of the great *commissure* of the brain called the *corpus callosum*, of that of the *cerebellum* or *pons Varolii* G, and of several others. In this manner we may form an idea of the double origin and double direction of the nervous system of the brain called by Drs Gall and Spurzheim the *diverging* and the *converging* fibres. By the knowledge of this disposition of the nervous fibres which compose the brain, we may succeed in unfolding the cerebral convolutions, and in extending them in the form of a membrane; but this unfolding cannot be comprehended or well accomplished, unless we have seen it executed by an anatomist practised in the operation.

“We shall not speak here of several other parts of the brain, namely, of the *ventricles*, the *pineal gland*, the *tubercula quadrigemina*, &c. Those parts are not of great importance to the popular student of the physiology of the brain. We could have wished to enter into some details on the *comparative* anatomy of the brain, but the limits of this work do not permit us to do so.”

DESCRIPTIONS OF THE PLATES.¹

PLATE III.—THE SKULL.

A, Basilar or sphenoid bone—small portion reaching the surface at the side.

¹ The following descriptions are not given by Dr Fossati. They are drawn from Dr Spurzheim's *Anatomy of the Brain, and Physiognomical System*. There are some errors in Dr Fossati's work in the lettering of the plates in reference to his text, which are rectified in this publication.

- B, Temporal bone.
 C, Occipital bone.
 D, Parietal Bone.
 E, Frontal bone.
 M, Meatus auditorius externus, or external opening of the ear.
 P, Mastoid process of the temporal bone, which serves to give attachment to the sterno-mastoid muscle.
 SSS, Sutures, or serrated edges by which the different bones are joined together.

PLATE IV.—BASE OF THE BRAIN.

- A C } Are the right and left hemispheres of the brain.
 A C }
 FF, The cerebellum.
 AA, The anterior lobe.
 ee, The line which denotes the separation between the anterior lobe and the middle lobe.
 BB, The middle lobe.
 CC, The posterior lobe.
 GG, The *Pons Varolii*, which brings the two sides of the cerebellum into communication.
 HH, The *Medulla oblongata*.
 rr, The *Corpora pyramidalia*.
 ss, The *Corpora olivaria*.
 tt, The *Corpora restiformia*.

1. Olfactory nerves or first pair. Their origin is not yet demonstrated. They go through the holes in the cribriform plate of the ethmoid bone, and are distributed on the membrane which lines the nostrils.
2. The optic nerves. They pass along the side of the *thalami nervorum opticorum*, and can be traced to the *nates* of the *corpora quadrigemina*, which bear a proportion to them. This is the second pair of the anatomist. They pass through the optic holes of the sphenoid bone to the orbits.
3. Third pair or *motores oculi*. They originate from the *crura of the cerebrum* a little before the *tuber annulare*. They go through the fissure between the sphenoid bone and orbital plate of the frontal bone to the muscles of the eye-ball.
4. Fourth pair or pathetic nerves. They originate near the *corpora quadrigemina*, and pass between the middle lobes of the brain and the adjacent part of the *tuber annulare*. They go through the same fissure as the above to the *obliquus-superior* muscle of the eye-ball.
5. Fifth pair of nerves, *trigeminus* or trifacial nerves. They may be traced to above the *corpora olivaria*, and go to the orbits, great part of the face, and superior and inferior *maxillæ*.

6. Abductor nerve or sixth pair. They originate from a furrow between the posterior edge of the *tuber annulare* and the *corpora pyramidalia*. They go through the cavernous sinus and sphenoido-orbital fissure to the *abductor* muscle of the eye-ball.
7. Facial nerve or *portio dura*, or *sympatheticus minor*, is the second branch of the seventh pair. They pass through the aqueduct of Fallopius, to the external ear, neck, and face, and originate at the angle formed between the *Pons Varolii* and the *corpus restiforme*.
8. Auditory nerve, or *portio mollis*, first branch of the seventh pair. They go through a number of small holes within the auditory passage to all the internal parts of the ear. They come from medullary streaks on the surface of the fourth ventricle.
9. Glosso-pharyngeal nerve, principal branch of the eighth pair. They go to the styloid muscles, the tongue and the pharynx.
10. Vocal nerves, or eighth pair.¹ They originate from the base of the *corpora olivaria*. They go to the tongue, the pharynx, larynx, and lungs, and part to the stomach.
11. Spinal accessory nerves, or spinal nerves. They originate from the beginning of the spinal marrow. They go through the condyloid hole of the occipital bone to the *sterno-mastoid* and *trapezius* muscles.

PLATE V.—THE BRAIN SEEN FROM ONE SIDE, AND PLACED
AS IT IS IN THE SKULL.

The numbers refer to the organs as marked on the Plate at the beginning of the Book. The letters have the following references.

A, Anterior lobe of the Brain.

B, Organ of Tactility, described by Dr Fossati under the organ of Weight.
a, Alimentiveness.

C, Posterior lobe of the Brain.

G, Pons Varolii which brings the two sides of the cerebellum into communication.

H, The medulla oblongata.

F, The Cerebellum.

PLATE VI.—THE BRAIN SEEN AT ITS BASE, AND DISSECTED
SO AS TO SHEW THE DIRECTION OF ITS FIBRES.

The letters refer to the same parts as in the description of Plate IV., adding the following :

a, The *corpus dentatum*, or ganglion of the cerebellum.

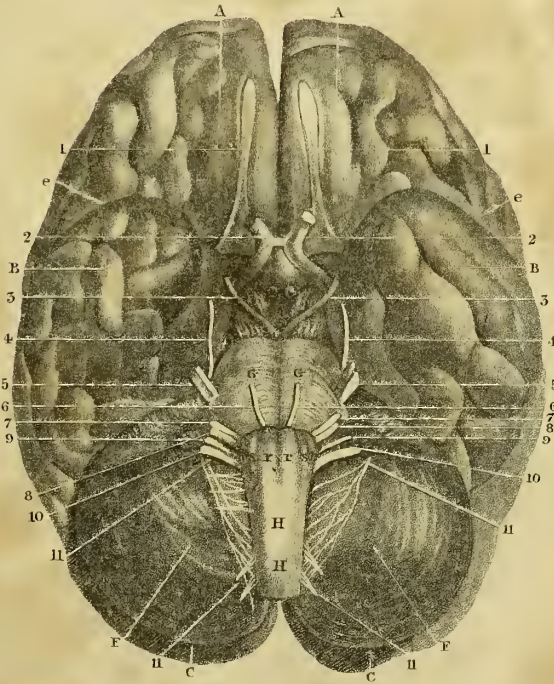
h, The *corpus striatum*.

¹ In what Dr Fossati calls the vocal nerves, are included the lingual and pneumogastric.

PL. III.



PL. IV.

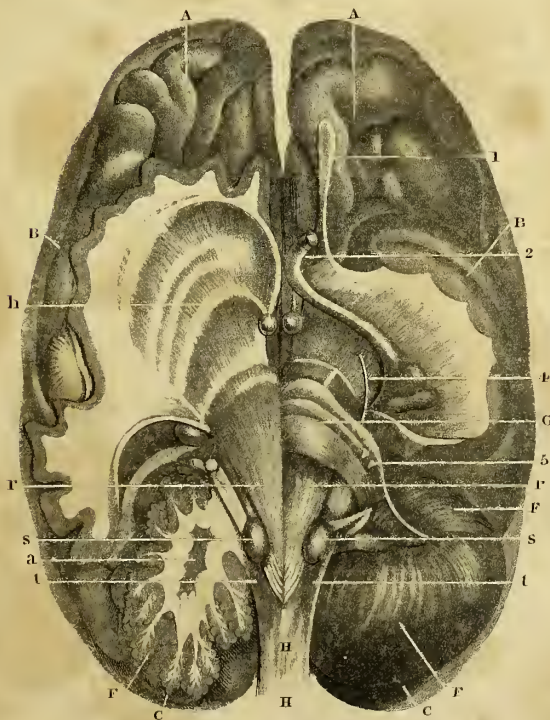




PL.V.



PL.VI.





PRACTICAL APPLICATION OF THE PRINCIPLES OF PHRENOLOGY.

It has already been mentioned, that there are two hemispheres of the brain, corresponding in form and functions. There are therefore two organs for each mental power, one in each hemisphere. Each organ, including its supposed apparatus of communication, extends from the *medulla oblongata*, or top of the spinal marrow, to the surface of the brain or cerebellum ; and every person not an idiot has all the organs in a greater or less degree. Such of the organs as are situated immediately on the sides of the middle line separating the hemispheres, are included in one space on the busts and plates. To avoid circumlocution, the expression "organ" of a faculty will be used, but both organs will be thereby meant.

The brain, as formerly stated (p. 119), is not divided by lines corresponding to those delineated on the busts ; but the forms produced on the skull by its different parts when extremely large or small, resemble those there represented—though it is not to be understood that the angles of the compartments are ever seen on the head.¹ Each part is inferred to be a separate organ, because its size, *cæteris paribus*, bears a regular proportion to the energy of a particular mental faculty.

As size, *cæteris paribus*, is a measure of power,² the first object ought to be to distinguish the size of the brain generally, so as to judge whether it be large enough to admit of manifestations of ordinary vigour ; for, as we have already seen (p. 43), if it be too small, idiocy is the invariable consequence. The second object should be to ascertain the relative proportions of the different parts, so as to determine the direction in which the power is greatest.

¹ In Dr Gall's plates, the organs are, in many instances, represented apart from each other, and all of them bounded entirely by curved lines, without angles. See his Atlas, Plates 98, 99, 100.

² See Introduction, p. 34, *et seq.*

It is proper to begin with observation of the more palpable differences in size, and particularly to attend to the relative proportions of the different lobes. The size of the anterior lobe is the measure of intellect. It lies on the super-orbital plates, and a line drawn along their posterior margin, across the head, will be found to terminate, externally, at that point (A in fig. 1.) where the parietal bone, the frontal bone, the ethmoidal bone, and the temporal bone approach nearest to each other. If the skull be placed with the axis of the eyes parallel with the horizon, and a perpendicular be raised from the most prominent part of the zygomatic arch, it will be found to intersect the point before described. In the living head, the most prominent part of the zygomatic arch may be felt by the hand. The anterior lobe lies before the point first described, and before and below Benevolence. Sometimes the lower part of the frontal lobe, connected with the perceptive faculties, is the largest, and this is indicated by the space before the point A, extending farthest forward at the base; sometimes the upper part, connected with the reflecting powers, is the most amply developed, in which case the projection is greatest in the upper region; and sometimes both are equally developed. The student is particularly requested to resort invariably to this mode of estimating the size of the anterior lobe, as the best for avoiding mistakes. In some individuals, the forehead is tolerably perpendicular, so that, seen in front, and judged of without attending to longitudinal depth, it appears to be largely developed; whereas, when viewed in the way now pointed out, it is seen to be extremely shallow. In other words, the mass is not large, and the intellectual manifestations will be proportionately feeble.

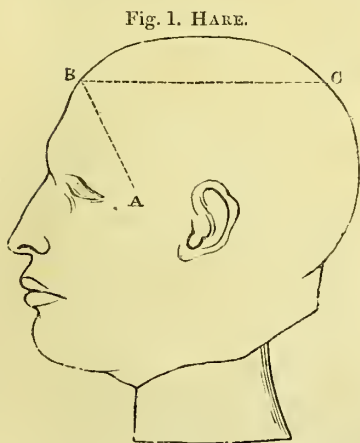
Besides the projection of the forehead, its vertical and lateral dimensions require to be attended to; a remark which applies to all the organs individually—each of course having, like other objects, the three dimensions of length, breadth, and thickness.

The posterior lobe is devoted chiefly to the animal propensities. In the brain its size is easily distinguished; and in the living head a perpendicular line may be drawn through the mastoid process, and all behind will belong to the posterior lobe. Wherever this and the basilar region are large, the animal feelings will be strong; and *vice versa*.

The coronal region of the brain is the seat of the moral sentiments; and its size may be estimated by the extent of elevation and expansion of the head above the organs of Causality in the forehead, and of Cautiousness in the middle of the parietal bones. When the whole region of the brain rising above these organs is shallow and narrow, the moral feelings will be weakly manifested; when high and expanded, they will be vigorously displayed.

Fig. 1. represents the head of William Hare, the brutal associate of Burke in the murder of sixteen individuals in Edinburgh, for the purpose of selling their bodies for dis-

Fig. 2. MELANCTHON.



section.¹ Fig. 2. represents that of Melancthon, the highly intellectual, moral, religious, and accomplished associate of

¹ See *Phrenological Journal*, v. 549.

Luther in effecting the Reformation in Germany.¹ All that lies before the line AB, in fig. 1, is the anterior lobe, comprising the organs of the intellectual faculties. The space above the horizontal line BC, marks the region of the moral sentiments. The space from A backwards, below BC, indicates the region of the propensities.

Fig. 3. GOTTFRIED.

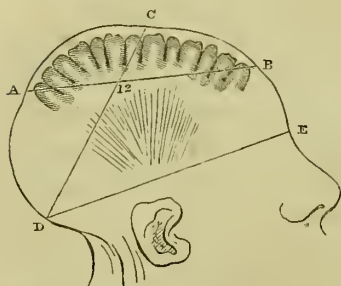


Fig. 4. EUSTACHE.

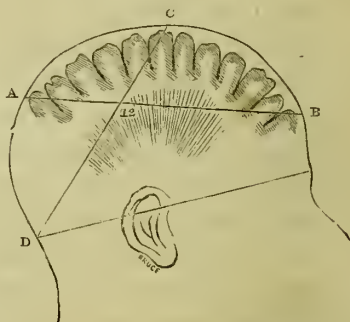


Fig. 3. represents the head of Gesche Margarethe Gottfried, a cruel and treacherous female, who was executed at Bremen in 1828, for poisoning, in cold blood, during a succession of years, both her parents, her three children, her first and second husbands, and about six other individuals.²

The line AB commences at the organ of Causality B, and passes through the middle of Cautiousness 12. These points are in general sufficiently distinguishable on the skull, and the line can easily be traced. The convolutions lying above the line AB must have been shallow and small, compared with those below, which are devoted to the animal propensities.

Fig. 4. is a sketch of the head of a Negro named Eustache,³ who was as much distinguished for high morality and

¹ Spurzheim's *Phrenology in Connexion with the Study of Physiognomy*, p. 160.

² This woman's history will be found in *The Phrenological Journal*, vol. vii. p. 560.

³ *Phrenological Journal*, vol. ix. p. 134. See also the section on Benevolence in this work.

practical benevolence as Gottfried was for deficiency of these qualities. During the massacre of the whites by the Negroes in St Domingo, Eustache, while in the capacity of a slave, saved, by his address, courage, and devotion, the lives of his master, and upwards of 400 other whites, at the daily risk of his own safety. The line AB is drawn from Causality B, through Cautiousness 12; and the great size of the convolutions of the moral sentiments may be estimated from the space lying between that line and the top of the head C.

Both of the sketches are taken from busts, and the convolutions are drawn suppositively for the sake of illustration. The depth of the convolutions, in both cuts, is greater than in nature, that the contrast may be rendered the more perceptible. It will be kept in mind that I am here merely teaching rules for observing heads, and not proving particular facts. The spaces, however, between the line AB and the top of the head are accurately drawn to a scale. Dr Abram Cox has suggested, that the size of the convolutions which constitute the organs of Self-Esteem, Love of Approbation, Concentrativeness, Adhesiveness, and Philoprogenitiveness, may be estimated by their projection beyond a base formed by a plane passing through the centres of the two organs of Cautiousness and the spinous process of the occipital bone. He was led to this conclusion by a minute examination of a great number of the skulls in the collection of the Phrenological Society. A section of this plane is represented by the lines CD, in figs. 3 and 4.

To determine the size of the convolutions lying in the lateral regions of the head, Dr Cox proposes to imagine two vertical planes passing through the organs of Causality in each hemisphere, and directly backwards, till each meets the outer border of the point of insertion of the trapezius muscle at the back of the neck. The more the lateral convolutions project beyond these planes, the larger do the organs in the sides of the head appear to be—namely, Combativeness, Destructiveness, Secretiveness, Cautiousness, Acquisitiveness,

and Constructiveness ; also to some extent Tune, Ideality, Wit, and Number.

Fig. 5. CINGALESE.

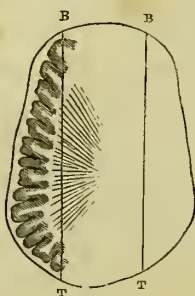


Fig. 6. GOTTFRIED.

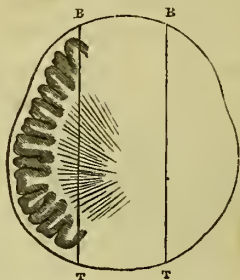


Fig. 5. represents a horizontal section of the skull of a Cingalese, the lines BT being sections of the planes above described. Fig. 6. represents the same section of the skull of Gottfried, the female poisoner already referred to. The lateral expansion of the head beyond the lines BT in fig. 6, forms a striking contrast with the size of the same regions in fig. 5. The Cingalese are a tribe in Ceylon, and in disposition are remarkably mild and pacific.¹

Dr Cox suggests farther, that the size of the convolutions lying at the base of the brain, may be estimated by their projection below a plane passing through the superciliary ridges and the occipital spine (DE, fig. 3, and D, fig. 4), and by observing the distance at which the opening of the ear, the mastoid process, and other points of the base of the skull, lie below that plane.

So many instances have occurred in which I have verified the accuracy of the inferences drawn from the projection of the brain beyond these planes, that I recommend this mode of observation as useful in practice. In the course of my lectures, I have frequently pointed out the difference, in different individuals, in the position of the opening of the ear in relation to the level of the eye, as one

¹ See description of their character in *The Phrenological Journal*, vii. 634.

indication of the size of the organ of Destructiveness, and of the basilar convolutions situated inward from it towards the mesial plane. The lower the ear descends, the larger are the inferior convolutions of the middle lobe, which occupy the middle fossæ of the skull. Individuals in whom the opening of the ear stands nearly on a level with the eye, are in general little prone to violence of temper. Dr G. M. Paterson mentions incidentally, in his paper "On the Phrenology of Hindostan,"¹ that the situation of the ears is high in the Hindoos, while, at the same time, their skulls, over the organ of Destructiveness, are "either quite flat, or indicate a slight degree of concavity."

I have multiplied observations to so great an extent in regard to the above-described methods of estimating the size of the anterior lobe and the coronal region of the brain, that I regard them as altogether worthy of reliance. The observations on the planes suggested by Dr Abram Cox, however, are still too limited to authorize me to state these as certain guides. They are open to the verification of every observer. I particularly recommend to students of Phrenology who have opportunities of dissecting the brains of individuals whose dispositions are known, to run straight wires through the brain before removing it from the skull, in the directions of the lines represented in the figures; then to make sections, passing through the course of the wires; and to observe and report to what extent the convolutions develop themselves externally from the planes so formed.

By observing the proportions of the different regions, it will be discovered, that in some instances the anterior lobe bears a large and in others a small proportion to the rest of the head; in some cases the coronal region is large in proportion to the base, while in others it is small. The busts of the Reverend Mr M., Pallet, Steventon, and Sir Edward Parry, may be contrasted with this view.² Great differences also

¹ *Transactions of the Phrenological Society* (Edin. 1824), p. 443.

² The casts and skulls referred to in this and subsequent pages, as illustrative of particular organs, are to be found in the collection of the Phreno-

in projection beyond the line running from Causality to the trapezius, will be discovered. A head that is very broad in proportion to its height, indicates a mind in which the lower propensities are the ruling springs of action. The Roman emperor Vitellius, a monster of vice, is represented with such a head.

VITELLIUS.



After becoming familiar with the general size and configuration of heads, the student may proceed to the *observation of individual organs* : in studying them, the real dimensions, including length, breadth, and thickness, and not merely the prominence of each organ, should be looked for.

The length of an organ, including its supposed apparatus of communication, is ascertained by the distance from the

logical Society. Duplicates of most of them are exhibited and sold by Mr James Deville, Strand, London ; by Mr Anthony O'Neil, Edinburgh ; and by their agents.

medulla oblongata to the peripheral surface. A line passing through the head from one ear to the other, would nearly touch the *medulla oblongata*, and hence the external opening of the ear is assumed as a convenient point from which to estimate length. The breadth of an organ is judged of by its peripheral expansion ; for it is a general law of physiology, that the breadth of an organ throughout its whole course bears a relation to its expansion at the surface ; the optic and olfactory nerves are examples in point.

It has been objected that the breadth of the organs cannot be ascertained, because the boundaries of them are not sufficiently determinate. In answer I observe, that although the boundaries of the different organs cannot be determined with mathematical precision, like those of a triangle, a square, or a rhomboid, yet, in a single case, an accurate observer may make a very near approximation to the truth ; and, in a great multitude of cases, the very doctrine of chances, and of the compensation of errors, must satisfy any one that these boundaries may be defined with sufficient precision for all practical purposes. Even in the exact sciences themselves, an approximate solution is frequently all that is attainable ; and if the opponents would only make themselves masters of the binomial theorem, or pay a little attention to the expansion of infinite series, they would not persist in calling for a degree of accuracy which is impossible, or in neglecting an important element in a calculation, because it is involved in a certain liability to error within very narrow limits. The absurdity of the reason assigned for this omission, is rendered still more apparent by the case of the prismatic spectrum, which I conceive to be exactly in point. Now, what is it that this beautiful phenomenon displays ? The seven primary colours, arranged in a peculiar order, and glowing with an almost painful intensity. But each of these colours occupies a certain space in relation to the whole, the boundaries of which it may be impossible for the hand or eye to trace with geometrical precision, although the relative space in question

has nevertheless been made the subject of measurement, and a very close approximation obtained from the mean of a vast number of trials. According to the principle followed by some antiphrenologists, however, *breadth* should be altogether neglected, on the ground that the boundaries of the respective colours are “purely ideal ;” as if a mathematical line were not the most perfect idealism or abstraction which the mind of man can possibly form. This idealism or abstraction, however, has no more to do with those approximations which may be obtained practically by repeated trials, than the mathematical definition of a line with a metallic rod ; and it is a mere quibble to pretend, for example, that we ought not to measure the length of the rod, because it may not correspond with the definition of the line. Upon the strange principle which some opponents have adopted, they must be prepared to maintain, that the boundaries of a hill or hillock are purely *ideal*, and depend in *every* instance on the *fancy* of the measurer.¹ After the nerves of sensation and motion have combined at F. (figure, p. 91) it is no longer possible to distinguish them by their appearances, yet it is generally admitted that they continue distinct in their whole course. Another illustration is afforded by geology. The leading rocks bear so many characteristic marks of distinction, that no ordinary observer can mistake them ; yet particular specimens graduate so much into each other, that the most skilful observers will sometimes err, and believe basalt to be claystone, or gneiss to be granite. In teaching this science, however, the leading features of the rocks are found sufficient to guide the student to knowledge of the principles, and his own sagacity, improved by experience, enables him in due time to deal successfully with the intricacies and difficulties of the study. The same rule ought to be followed in cultivating Phrenology.²

The *whole* organs in a head should be examined, and their

¹ *Caledonian Mercury*, 11th June 1829.

² See additional illustrations in *The Phrenological Journal*, viii. 640.

relative proportions noted.¹ Errors may be committed at first; but without practice, there will be no expertness. Practice, with at least an average endowment of the organs of Form, Size, Individuality, and Locality, are necessary to qualify a person to make observations with success: individuals whose heads are very narrow between the eyes, and little developed at the top of the nose, where these organs are placed, experience great difficulty in distinguishing the situations and minute shades in the proportions of different organs. If one organ be much developed, and the neighbouring organs very little, the developed organ will present an elevation or protuberance; but if the neighbouring organs be developed in proportion, no protuberance can be perceived, and the surface is smooth. The student should learn from books, plates, and casts, or personal instruction (and the last is by far the best), to distinguish the *form* of each organ, and its *appearance* when developed in different proportions to the others, because there are slight modifications in the position of them in each head.

The phrenological bust shews the situations of the organs,

¹ "There are many convolutions," says Dr Spurzheim, "in the middle line between the two hemispheres of the brain, and others at the basis and between the anterior and middle lobes, which do not appear on the surface; but it seems to me that a great part, at least, of every organ does present itself there, and further, that all the parts of each organ are equally developed, so that, though a portion only appear, the state of the whole may be inferred. The whole cerebellum reaches not the skull, yet its function may be determined from the part which does. The cerebral parts situated in the middle line between the hemispheres, seem proportionate to the superincumbent convolutions; at least I have always observed a proportion, in the vertical direction, between them."—*Phrenology*, p. 116.

"The cerebral parts situated around and behind the orbit, also require some care and experience on the part of the phrenologist, to be judged of accurately. Their development is discoverable from the position of the eyeball, and from the figure of the superciliary ridge. According as the eye-ball is prominent or hidden in the orbit, depressed or pushed sideward, inward, or outward, we may judge of the development of the organs situated around and behind it."—*Ibid.* Particular directions for observing the parts there situated will be given, when treating of the individual organs.

and their proportions, only in one head; and it is impossible by it to communicate more information.¹ The different ap-

¹ Attempts have been made by opponents to represent certain changes in the numbering and marking of the organs in busts recently published, as "a Revolution in Phrenology." A brief explanation will place this matter in its true light. The phrenological bust sold in the shops is an *artificial* head, the utility of which depends on the degree in which the delineation of the organs on it approaches to the appearances *most generally* presented by the organs in nature. The first bust sold in this country exhibited the organs as they would be found in a particular head not very common in this country, the bust having been imported from the Continent, and national heads being modified as much as national features. On the 1st of October 1824, a new bust was published in Edinburgh, in which the delineation exhibited more accurately the appearances and relative proportions of the organs in this country. Subsequent observations shewed that this bust might be brought still more closely to resemble the most common proportions of the organs in Britain; and, on the 1st of April 1829, certain modifications were made on it accordingly. The head selected is very nearly of the full average size. It was selected because the three orders of organs, those of the Propensities, Sentiments, and Intellectual Faculties were all well developed. In mapping out the different organs a great number of skulls and casts of the head were consulted, and the forms and situations of the organs in them were copied as far as possible. For example, the organ of Amativeness was delineated after its form in a skull in which it was strongly marked. Philoprogenitiveness was copied from the skull marked No. 2. Plate LX. in the Atlas which accompanies Dr Gall's large work, of which we possess a cast, and in which it stands forth as distinctly as the nose on the human face. Concentrativeness was drawn from a cast of the head of a gentleman in whom it was very large, aided by another cast in which it was very small. Adhesiveness is delineated chiefly from negative instances, that is to say, from skulls and casts in which it is depressed; David Haggart's, for example, is one. In many skulls and casts, such as the Swiss skulls, the cast of the head of Mrs H., &c., the organ is largely developed; but it does not stand forth in a definite form, on account of the neighbouring organs being also large. In the negative cases there is a depression corresponding to that single organ; and its situation, therefore, with an approximation to its form, was to be found by reference to them. Combativeness stands forth in a distinct form in the skull of General Wurmser, of which we have a cast. Destructiveness is equally conspicuous in the skull of Bellingham. Secretiveness stands singly prominent in a Hindoo skull which we possess; it is also predominant in the skull marked "a Cunning Debtor," in Gall's collection. Acquisitiveness stands forth as a predominant single organ in a skull in the Phrenological Society's collection here, and on the faith of its form and position in this head, we

pearances in all the varieties of relative size, must be discovered by inspecting *a number* of heads; and especially by

declined to adopt a new marking of this organ introduced by Dr Spurzheim from anatomical considerations alone. The accuracy of our marking has been borne out by many subsequent examples. Constructiveness may be seen as a single round organ in the cast of the skull formerly ascribed to Raphael, and in that of the "Milliner of Vienna;" and it is also very distinctly marked in several of the "Greek" skulls. Self-Esteem stands prominent in the cast of a head in our museum, and it is singly deficient in the skulls of Dr Hette, an "American Indian," and several others. Love of Approbation presents its peculiar form in the "American Indian," the "Peruvian," and many others. We have the organ of Cautiousness standing forth in its distinctive form in the "Tom-tom boy," and in at least a dozen of other skulls in the Society's collection. Benevolence is clearly defined in the mask of Jacob Jervis. Veneration stands as a predominating organ in the skull of an old woman in Dr Gall's collection, of which we have a cast; and it is singly deficient in forty or fifty skulls in our possession. Hope is large, and Veneration deficient, in an "open skull" which I use in my lectures: we have no good specimen of its standing forth as a single prominent organ; but we have many of its single deficiency, presenting a depression of a recognisable form in a specific locality. Firmness stands forth in the casts of D. Haggart, King Robert Bruce, and in many others; while it forms a complete hollow in the head of Mrs H. Conscientiousness is perfectly defined in the head of Mrs H., while it is remarkably deficient in the skulls of Bruce and Haggart. Ideality is found well marked in some of the "Greek skulls," and in the poets and artists, while it is extremely deficient in Haggart and the criminals in general. The same mode of fixing the situations and forms of all the other organs was followed, and above all, the anatomy of the skull was constantly kept in view in the delineations. By consulting the casts mentioned under each of the organs, in the subsequent pages of this work, additional authorities will be found for the forms and situations assigned to the greater part of the organs in the artificial bust. The nature of the changes made on this bust may be explained by a simple illustration. Suppose that, in 1819, an artist had modelled a bust, resembling, as closely as his skill could reach, the face most commonly met with in Scotland, and that, to save the trouble of referring to the different features by name, he had attached numbers to them, beginning at the chin, and calling it No. 1, and so on up to the brow, which we may suppose to be No. 33—in this bust he would necessarily give certain proportions to the eyes, nose, cheek, mouth, and chin. But suppose he were to continue his observations for five years, it is quite conceivable he might come to be of opinion that, by making the nose a little shorter, the mouth a little wider, the cheeks a little broader, and the chin a little sharper, he could bring the artificial face nearer to

contrasting instances of extreme development with others of extreme deficiency. No adequate idea of the foundation of the science can be formed until this is done. In cases of extreme size of single organs, a close approximation to the *form* delineated on the bust (leaving angles out of view) is distinctly perceived.

The question will perhaps occur—If the relative proportions of the organs differ in each individual, and if the phrenological bust represents only their *most common proportions*, how are their boundaries to be distinguished in any particular living head? The answer is, By their *forms* and *appearances*. Each organ has a form, appearance, and situation, which it is possible, by practice, to distinguish in the living head, otherwise Phrenology cannot have any foundation.

When one organ is very largely developed, it encroaches

the *most general* form of the Scottish countenance; and that he might arrange the *numbers* of the features with greater philosophical accuracy: and suppose he were to publish a new edition of his bust with these modifications of the features, and with the numeration changed so that the mouth should be No. 1, the chin No. 5, and the brow No. 35, what should we think of a critic who should announce these alterations as “a revolution” in human physiognomy, and assert that, because the numbers were changed, the nose had obliterated the eyes, and the chin had extinguished the mouth? This is what the opponents have done in regard to the new phrenological bust. In the modifications which have been made on it, the essential forms and relative situations of all the organs have been preserved, and there is no instance of the organ of Benevolence being turned into that of Veneration, or Veneration into Hope, any more than, in the supposed new modelled face, the nose would be converted into the eyes, or the eyes into the mouth.

In regard to the numeration, again, the changes are exactly analogous to those which are before supposed to take place in regard to the features. The organ of Ideality formerly was numbered 16, and now it is numbered 19; but the organ and function are nothing different on this account. Dr Spurzheim adopted a new order of numbering, from enlarged observation of the anatomical relations of the organs, and his improvements have been adopted in Edinburgh and Dublin. He, however, in the United States of America, again altered the forms and numbering of several of the organs. I have never been able to discover sufficient evidence in nature to authorize these last changes, and I have not adopted them. See, farther, with respect to the marked bust, *The Phrenological Journal*, xii. 362.

on the space usually occupied by the neighbouring organs, the situations of which are thereby slightly altered. When this occurs, it may be distinguished by the greatest prominence being near the centre of the large organ, and the swelling extending over a portion only of the others. In these cases the *shape* should be attended to; for the form of the organ is then easily recognised, and is a sure indication of the particular one which is largely developed.

The observer should learn, by inspecting a skull, to distinguish the mastoid process behind the ear, as also certain bony excrescences sometimes formed by the sutures, and several bony prominences which occur in every head,—from elevations produced by development of brain.

In observing the *appearance* of individual organs, it is proper to begin with the largest, and select extreme cases. The mask of Mr Joseph Hume may be contrasted with that of Dr Chalmers for Ideality; the organ being much larger in the latter than in the former. The casts of the skulls of Burns and Haggart may be compared at the same part; the difference being equally conspicuous. The cast of the Reverend Mr M. may be contrasted with that of Dempsey, in the region of Love of Approbation; the former having this organ large, and the latter small. Self-Esteem in the latter, being exceedingly large, may be compared with the same organ in the skull of Dr Hette, in whom Love of Approbation is much larger than Self-Esteem. Destructiveness in Bellingham may be compared with the same organ in the skulls of the Hindoos; the latter people being in general tender of life. Firmness large, and Conscientiousness deficient, in King Robert Bruce, may be compared with the same organs reversed in the cast of the head of a lady (Mrs H.), which is sold as illustrative of these organs. The object of making these contrasts is to obtain an idea of the different *appearances* presented by organs, when very large and very small.

The terms used by the Edinburgh phrenologists to denote

the gradations of size in the different organs, in an increasing ratio, are

Very small.	Moderate.	Rather large.
Small.	Rather full.	Large.
Rather small.	Full.	Very large.

Sir John Ross has suggested, that numerals may be applied with advantage to the notation of development. He uses decimals; but these appear unnecessarily minute. The end in view may be attained by such a scale as the following:

1.	8. Rather small.	15.
2. Idiocy.	9.	16. Rather large.
3.	10. Moderate.	17.
4. Very small.	11.	18. Large.
5.	12. Rather full.	19.
6. Small.	13.	20. Very large.
7.	14. Full.	

The intermediate figures denote intermediate degrees of size, for which we have no names. The advantage of adopting numerals is, that the values of the extremes being known, we can judge accurately of the dimensions denoted by the intermediate numbers; whereas it is difficult to apprehend precisely the degrees of magnitude indicated by the terms small, full, large, &c., unless we have seen them applied by the individual who uses them. These divisions have been objected to as too minute; but by those who have long practised Phrenology, this is not found to be the case. It has even been said that it is *impossible* to distinguish the existence of several of the organs in consequence of their minute size. This objection is obviously ill-founded. A lady finds it quite possible to distinguish the *head* from the *point* of a pin, and to discover the eye of a needle. Artizans can not only perceive the links in the chain attached to the main-spring of a watch, but are able to fabricate them; engravers distinguish the minutest lines which they employ to produce shade in pictures; and printers not only discriminate at a glance the smallest types used in their art, but distinguish

between a period and a comma; compared with which objects the smallest phrenological organ is of gigantic size. There is, however, *difficulty* in distinguishing the size and relative proportions of the minuter organs. But practice has an astonishing effect in giving acuteness to the perception of differences in the appearance of these as well as of other objects. A schoolboy or labourer will confound manuscripts of different aspects, while an experienced copyist finds no difficulty in ascribing each of a hundred pages, written by as many individuals, to its appropriate penman. When there is a question of forgery in a court of law, the judge remits to an engraver to report whether or not the signature is genuine, because it is known that the familiarity of engravers with the minute forms of written characters enables them to discriminate points of identity and difference which would escape the notice of ordinary observers. How frequently, moreover, do strangers mistake one member of a family for another, although the real difference of features is so obvious to the remaining brothers and sisters that they are puzzled to discover any resemblance whatever! How easily does the experienced physician distinguish two diseases, by the similarity of whose symptoms a novice would be at once misled! And with what facility does a skilful painter discriminate a copy from an original! It was only after a continued and attentive study of Raphael's pictures that Sir Joshua Reynolds was able to perceive their excellencies. "Nor does painting," he adds, "in this respect differ from other arts. A just poetical taste, and the acquisition of a nice discriminative musical ear, are equally the work of time. Even the eye, however perfect in itself, is often unable to distinguish between the brilliancy of two diamonds: the experienced jeweller will be amazed at this blindness, though his own powers of discrimination were acquired by slow and scarcely perceptible degrees." So it is with Phrenology. The student is often at first unable to perceive differences which, after a few months, become palpably manifest to him, and at the former obscurity of which

he is not a little surprised. The following anecdote, related by Dr Gall,¹ is in point. The physician of the House of Correction at Grætz in Stiria, sent him a box filled with skulls. In unpacking them, he was so much struck with the extreme breadth of one of them at the anterior region of the temples, that he exclaimed, “Mon Dieu, quel crâne de voleur!” Yet the physician had been unable to discover the organ of Acquisitiveness in that skull. His letter to Dr Gall, sent with the box, was found to contain this information: “The skull marked —— is that of N——, an incorrigible thief.”

With respect to the practical employment of the scale above described, it is proper to remark, that as each phrenologist attaches to the terms small, moderate, full, &c., shades of meaning perfectly known only to himself and those accustomed to observe heads along with him, the separate statements of the development of a particular head by two phrenologists, are not likely to correspond entirely with each other. It ought to be kept in mind, also, that these terms indicate only the relative proportions of the organs to each other in the same head; but as the different organs may bear the same proportions in a small and in a large head, the terms mentioned do not enable the reader to discover, whether the head treated of be in its general magnitude small, moderate, or large. To supply this information, measurement by callipers is resorted to; but this is used not to indicate the dimensions of particular organs, for which purpose it is not adapted, but merely to designate the *general size* of the head.

The following are a few measurements from nature, taken promiscuously from many more in my possession.²

¹ *Sur les Fonctions du Cerveau*, iv. 240.

² The most successful efforts in the measurement of skulls with which I am acquainted, are those made by Mr Phillips and Dr Morton of Philadelphia, and recorded in the excellent work by the latter, entitled *Crania Americana* (Philadelphia, 1839). I saw the method practised when that work was in preparation, and can recommend it as

Table of Measurements by Callipers.

Males between 25 and 50.	From Occipital Spine to Indivuality.	From Occipital Spine to Ear.	From Ear to Indivuality.	From Ear to Firmness.	From Destruc- tiveness to Destructiveness.	From Cautious- ness to Cautiousness.	From Ideality to Ideality.
1.	7 $\frac{5}{8}$	4 $\frac{3}{8}$	4 $\frac{7}{8}$	5 $\frac{7}{8}$	5 $\frac{7}{8}$	5 $\frac{4}{8}$	5 $\frac{3}{8}$
2.	6 $\frac{5}{8}$	3 $\frac{4}{8}$	4 $\frac{3}{8}$	5 $\frac{6}{8}$	5 $\frac{5}{8}$	5 $\frac{6}{8}$	4 $\frac{6}{8}$
3.	8 $\frac{3}{8}$	4 $\frac{7}{8}$	5 $\frac{3}{8}$	6 $\frac{4}{8}$	6 $\frac{4}{8}$	6	5 $\frac{3}{8}$
4.	7 $\frac{4}{8}$	4	5	5 $\frac{4}{8}$	6	5 $\frac{4}{8}$	5 $\frac{3}{8}$
5.	8	4 $\frac{7}{8}$	5 $\frac{2}{8}$	6 $\frac{3}{8}$	6 $\frac{3}{8}$	6	5 $\frac{3}{8}$
6.	8	4 $\frac{6}{8}$	4 $\frac{6}{8}$	5 $\frac{5}{8}$	5 $\frac{6}{8}$	5 $\frac{6}{8}$	5 $\frac{3}{8}$
7.	7 $\frac{4}{8}$	4 $\frac{6}{8}$	4 $\frac{6}{8}$	5 $\frac{6}{8}$	6 $\frac{1}{8}$	5 $\frac{7}{8}$	5 $\frac{4}{8}$
8.	7 $\frac{4}{8}$	4 $\frac{6}{8}$	4 $\frac{6}{8}$	5 $\frac{5}{8}$	5 $\frac{7}{8}$	5 $\frac{4}{8}$	5 $\frac{1}{8}$
9.	7 $\frac{4}{8}$	4 $\frac{6}{8}$	4 $\frac{7}{8}$	6	5 $\frac{6}{8}$	5 $\frac{6}{8}$	5 $\frac{1}{8}$
10.	8 $\frac{2}{8}$	5	5 $\frac{3}{8}$	5 $\frac{7}{8}$	6 $\frac{5}{8}$	5 $\frac{4}{8}$	5 $\frac{4}{8}$
11.	7 $\frac{2}{8}$	4 $\frac{3}{8}$	5	5 $\frac{7}{8}$	5 $\frac{4}{8}$	5 $\frac{2}{8}$	4 $\frac{6}{8}$
12.	7 $\frac{4}{8}$	4 $\frac{3}{8}$	5	6	5 $\frac{6}{8}$	5 $\frac{7}{8}$	4 $\frac{6}{8}$
13.	7 $\frac{3}{8}$	4 $\frac{1}{8}$	4 $\frac{6}{8}$	5 $\frac{6}{8}$	5 $\frac{6}{8}$	5 $\frac{6}{8}$	5 $\frac{3}{8}$
14.	7 $\frac{1}{8}$	3 $\frac{7}{8}$	4 $\frac{4}{8}$	5 $\frac{5}{8}$	6 $\frac{2}{8}$	5 $\frac{6}{8}$	5
15.	7 $\frac{3}{8}$	4 $\frac{1}{8}$	4 $\frac{7}{8}$	6 $\frac{1}{8}$	6	6	5
16.	7 $\frac{7}{8}$	4 $\frac{2}{8}$	5 $\frac{5}{8}$	6	6 $\frac{2}{8}$	5 $\frac{2}{8}$	5 $\frac{5}{8}$
17.	7 $\frac{7}{8}$	4 $\frac{4}{8}$	5 $\frac{1}{8}$	6 $\frac{4}{8}$	6 $\frac{4}{8}$	6 $\frac{1}{8}$	5 $\frac{6}{8}$
18.	7 $\frac{4}{8}$	4 $\frac{6}{8}$	5	5 $\frac{7}{8}$	5 $\frac{6}{8}$	5 $\frac{3}{8}$	4 $\frac{7}{8}$
19.	8	4 $\frac{2}{8}$	5 $\frac{4}{8}$	6 $\frac{1}{8}$	6	6	4 $\frac{7}{8}$
20.	7	4 $\frac{1}{8}$	4 $\frac{5}{8}$	5 $\frac{5}{8}$	5 $\frac{6}{8}$	5 $\frac{2}{8}$	4 $\frac{6}{8}$
	151 $\frac{5}{8}$	86 $\frac{3}{8}$	99 $\frac{1}{8}$	118 $\frac{4}{8}$	119 $\frac{5}{8}$	113 $\frac{7}{8}$	103 $\frac{3}{8}$
Total di- vided by 20 gives average.	7 $\frac{4}{8}$	4 $\frac{3}{8}$	4 $\frac{19}{20}$	5 $\frac{18}{20}$	5 $\frac{16}{20}$	5 $\frac{14}{20}$	5 $\frac{3}{20}$

These measurements are taken above the integuments, and shew the sizes of the different heads in the directions specified ; but I repeat that they are not given as indicative of the dimensions of any particular organs. The callipers

the best yet applied to the attainment of the object in view. Dr Morton's work is exceedingly interesting to phrenologists, and very ably executed. Notices of it will be found in *The Phrenological Journal*, xiii. 351, 303.

are not suited for giving this latter information ; for they do not measure length from the medulla oblongata, or projection beyond the planes mentioned above ; neither do they indicate breadth : all of which dimensions must be attended to, in estimating the size of individual organs. The average of these twenty heads is probably higher than that of the natives of Britain generally, because there are several large heads among them, and none small.

It ought to be kept constantly in view, in the practical application of Phrenology, that it is the size of each organ in proportion to the others *in the head of the individual observed*, and not their *absolute size*, or their size in reference to any standard head, that determines the predominance in him of particular talents or dispositions.¹ Thus, in the head of Bellingham, Destructiveness is very large, and the organs of the moral sentiments and intellect are small in proportion ; and according to the rule, that, *cæteris paribus*, size is the measure of power, Bellingham's strongest tendencies are inferred to have been towards cruelty and rage. In several Hindoo skulls in the Phrenological Society's collection, the organ of Destructiveness is small in proportion to the others, and we conclude that the tendency of such individuals would be weakest towards the foregoing passions. But in the head of Gordon, the murderer of a pedlar boy, the absolute size of Destructiveness is less than in the head of Dr Spurzheim ; yet Dr S. was an amiable philosopher, and Gordon an atrocious murderer. This illustrates the rule, that we ought not to judge by *absolute size*. In Gordon, the organs of the moral sentiments and intellectual faculties are small in proportion to that of Destructiveness, which is the largest in the brain ; while in Spurzheim, the moral and intellectual organs are large in proportion to Destructiveness. On the foregoing principles, the most powerful manifestations of Spurzheim's mind ought to have been in the department of sentiment and intellect, and those of Gordon's mind in Destructiveness and other

¹ See *Phren. Journ.* viii. 642.

animal passions; and their actual dispositions corresponded. Still the dispositions of Spurzheim were affected by the large size of this organ. It communicated a warmth and vehemence of temper, which are found only when it is large, although the higher powers restrained it from abuse. Dr Spurzheim said to me: "I am too angry to answer that attack just now; I shall wait six months;"—and he did so, and then wrote calmly like a philosopher.

It is one object to prove Phrenology to be true, and another to teach a beginner how to observe organs. For the first purpose, we do not in general compare an organ in one head with the same organ in another; because it is the predominance of particular organs in the *same head* that gives ascendancy to particular faculties in the individual, and therefore, *in proving Phrenology*, we usually compare the different organs of the same head. But in learning to observe, it is useful to contrast the same organ in different heads, in order to become familiar with its appearance in different sizes and combinations.

With this view, it is proper to begin with the larger organs; and two persons of opposite dispositions in the particular points to be compared, ought to be placed in juxtaposition, and their heads observed. Thus, if we take the organ of Cautiousness, we should examine its development in those whom we know to be remarkable for timidity, doubt, and hesitation; and we should contrast its appearance with that which it presents in individuals remarkable for precipitancy, and into whose minds doubt or fear rarely enters. Or a person who is passionately fond of children, may be compared, in regard to the organ of Philoprogenitiveness, with another who regards them as an intolerable annoyance. No error is more to be avoided, than beginning with the observation of the smaller organs, and examining these without a contrast.

An objection is frequently stated, that persons having large heads have "little wit," while others with small heads are "very clever." The phrenologist never compares intellec-

tual ability with size of the brain in general ; for a fundamental principle of the science is, that different parts of the brain have different functions, and that hence the *same absolute quantity* of brain, if consisting of intellectual organs, may be connected with the highest genius,—while, if consisting of the animal organs, lying in the basilar and occipital regions of the head, it may indicate the most fearful energy of the lower propensities. The brains of a savage tribe might be equal in absolute size to those of average Europeans ; yet, if the chief development of the former were in the animal organs, while the latter have a comparatively great endowment of the organs of moral sentiment and intellect, no phrenologist would expect the one people to be equal in intelligence and morality to the other, merely because their brains were equal in absolute magnitude. The proper test is to take two heads, in sound health, and similar in temperament, age, and exercise, in each of which the several organs are similar in their proportions, but the one of which is large, and the other small ; and then, if the preponderance of power of manifestation be not in favour of the first, Phrenology must be abandoned as destitute of foundation.

In comparing the brains of the lower animals with the human brain, the phrenologist looks solely for the reflected light of analogy to guide him in his researches, and never finds a direct argument in favour of the functions of the different parts of the human brain upon any facts observed in regard to the lower animals ; and the reason is, that such different genera of animals are too dissimilar in constitution and external circumstances, to authorize him to draw positive results from comparing them. “ We should never,” says Dr Vimont, “ commence the application of the principles of Phrenology on the crania of individuals belonging to different classes and orders of animals. It should always be on the crania of animals of the same species, and especially on animals the produce of the same parents. Every one who will take the trouble to repeat my experiments, by rear-

ing before his own eyes, and during a long period, a large number of animals, and noting with care their most prominent faculties, will be qualified to make valuable cranioscopic observations on the chief vertebrated animals."¹ Many philosophers, being convinced that the brain is the organ of mind, and having observed that the human brain is larger than that of the majority of tame animals, as the horse, dog, and ox, have attributed the mental superiority of man to the superiority in absolute size of his brain; but the phrenologist does not acknowledge this conclusion as in accordance with the principles of his science. The brain in one of the lower creatures may be very large, and nevertheless, if it be composed of parts appropriated to the exercise of muscular energy or the manifestation of animal propensities, its possessor may be far inferior in understanding or sagacity to another animal, having a smaller brain, but composed chiefly of parts destined to manifest intellectual power.² Whales and elephants have a brain larger than that of man, and yet their sagacity is not equal to his; but nobody has shewn that the parts destined to manifest intellect are larger in these animals than in man; and hence the superior intelligence of the human species is no departure from the general analogy of nature. I repeat, however, that it is improper to expect accurate results of any kind from a comparison of the brains of different species of animals.

In like manner, the brains of the monkey and the dog are smaller than those of the ox, hog, and ass, and yet the former approach nearer to man in regard to their intellectual faculties. To apply the principles of Phrenology to them, it would be necessary to ascertain, first, that the brain, in structure, constitution, and temperament, is precisely similar in the different species compared (which it is not);³ then to dis-

¹ *Treatise on Human and Comparative Phrenology*, under the head "Cranioscopy of Animals."

² Spurzheim's *Phrenology*, sect. III. ch. 2. p. 54.

³ This subject is amply discussed in *The Annals of Phrenology*, vol. ii. pp. 38-49; Dr Caldwell's *Phrenology Vindicated* (Lexington, Ky. 1835), pp. 62-73; and *The Phrenological Journal*, vol. xiv. pp. 179, 264, 389.

cover what parts manifest intellect, and what propensity, in each species ; and, lastly, to compare the power of manifesting each faculty with the size of its appropriate organ. If size were found not to be a measure of power, then the rule under discussion would fail in that species : but even this would not authorize us to conclude that it did not hold good in regard to man ; for Human Phrenology is founded, not on analogy, but on positive observations. Some persons are pleased to affirm, that the brains of the lower animals consist of the same parts as the human brain, only on a smaller scale ; but this is highly erroneous. If the student will procure brains of the sheep, dog, fox, calf, horse, or hog, and compare them with the human brain, or with the casts of it sold in the shops, he will find a variety of parts to be wanting in the animals, especially the convolutions which form the organs of the moral sentiments and the reflecting faculties.¹

In commencing the study of Phrenology, as of any science, it is of great importance to have a definite object in view. If the student desire to find the truth, he will consider first the general principles, developed in the introduction to the present work, and the presumptions for and against them, arising from admitted facts in mental philosophy and physiology. He will next proceed to make observations in nature ; qualifying himself by previous instruction in the forms, situations, appearances, and functions of the organs.

The chief circumstances which modify the effects of size, are constitution, health, and exercise ; and the student ought never to omit the consideration of these, for they are highly important. They have already been considered on pages 49-55, to which I refer. In addition to what is there stated, I observe, that the temperaments rarely occur simple in any individual, two or more being generally combined. The bilious and nervous temperament is a common combination, which gives strength and activity ; the lymphatic and nervous is also common, and produces sensitive deli-

¹ See *Phren. Journ.* ix. 514.

cacy of mind, conjoined with indolence. The nervous and sanguine combined give extreme vivacity, but without corresponding vigour. Dr Thomas of Paris has published a theory of the temperaments to the following effect. When the digestive organs filling the abdominal cavity are large, and the lungs and brain small, the individual is lymphatic; he is fond of feeding, and averse to mental and muscular exertion. When the heart and lungs are large, and the brain and abdomen small, the individual is sanguine; blood abounds and is propelled with vigour; he is therefore fond of muscular exercise, but averse to thought. When the brain is large, and the abdominal and thoracic viscera small, great mental energy is the consequence. These proportions may be combined in great varieties, and modified results will ensue.¹

When two of the temperaments are combined, one may be increased and the other diminished by exercise. Dr Spurzheim possessed the nervous and lymphatic temperament; and I have heard him say, that his constant mental activity had increased the former and diminished the latter in his advanced years. In my courses of lectures on Phrenology, I have frequently held meetings of my classes for practical lessons on the temperaments, and have found Dr Thomas's indications strikingly supported by facts. I placed paintings of the four temperaments on the wall, and different individuals, *ad libitum*, came from among my audience, and stood under them. The class gave their opinions of the temperaments which were combined in each; and I observed, as a very general result, that the brain predominated in size in those of the nervous temperament; the lungs, in those of the sanguine; and the abdominal viscera, in those of the lymphatic temperaments. In the nervous-lymphatic, the brain and abdominal viscera were both large. In the sanguine-

¹ The views of Dr Thomas are more fully explained in *The Phrenological Journal*, iv. 438, 604; and in Dr Caldwell's *Essay on Temperament*, Lexington, Kentucky, 1831. Dr Thomas's own work is entitled, *Physiologie des Temperaments ou Constitutions*, &c. Paris, 1826.

nervous, both lungs and brain were large. In one hour, I generally found that my audience could discriminate the combinations of the temperaments successfully. The ladies did themselves the great credit of standing up to have their temperaments judged of, and took an active part in the exercises.

Mr Sidney Smith¹ maintains, "that the temperaments, or, in other words, the peculiar proportions in which the different elementary components of the blood are secreted in the system, are the result of the predominance of particular organs." Firmness predominant, for instance, produces the bilious temperament; Hope predominant, the sanguine; and Cautiousness predominant, the nervous; while the lymphatic "is caused by the joint operation of tardy circulation and imperfect oxygenation, the result of a confined chest and feeble heart and lungs." I have not found these ideas supported by my observations.

In some individuals the brain seems to be of a finer texture than in others; and there is then a delicacy and *fineness* of manifestation, which is one ingredient in genius. A harmonious combination of organs gives *justness* and soundness of perception, but there is a quality of fineness distinguishable from this. Byron possessed this quality in a high degree.²

If, in each of two individuals, the organs of propensity, sentiment, and intellect, are equally balanced, the general conduct of one may be vicious, and that of another moral and religious. In such a case it will be found that the circumstances of the former have been well calculated to rouse and invigorate the animal propensities and allow the moral sentiments to lie dormant, while the circumstances of the other have been directly the reverse. The *native power* may be equal in the propensities and sentiments; but the circum-

¹ *Principles of Phrenology*, p. 60.

² See an interesting article on the quality of the brain by Mr Noble, in *The Phrenological Journal*, xii. 121.

stances have given an acquired ascendancy to the class of feelings most strenuously cultivated.

Suppose that two individuals possess an organization exactly similar, but that one is highly educated, and the other left entirely to the impulses of nature—the former will manifest his faculties with higher *energy* than the latter; and hence it is argued, that size is not in all cases a measure of power.

Here, however, the requisite of *cæteris paribus* does not hold. An important condition is altered, and the phrenologist uniformly allows for the effects of education, before drawing positive conclusions.¹ It may be supposed that, if exercise thus increases power, it is impossible to draw the line of distinction between energy derived from this cause, and that which proceeds from size of the organs; and that hence the real effects of size can never be determined. The answer to this objection is, that education may cause the faculties to manifest themselves with the highest degree of energy *which the size of the organs will permit*, but that size fixes a limit which education cannot surpass. Dennis, we may presume, received some improvement from education, but it did not render him equal to Pope, much less to Shakspeare or Milton: therefore, if we take two individuals whose brains are equally healthy, but whose organs differ in size, and educate them alike, the advantages in power and attainment will be greater, in proportion to the size, in him who has the larger brain. Thus the objection ends in this,—that if we compare brains in opposite conditions, we may be led into error—which is granted; but this is not in opposition to the doctrine, that, *cæteris paribus*, power is in proportion to size. Finally—extreme deficiency in size produces, as we have seen, incapacity for education, as in idiots; while extreme development, if healthy, as in Shakspeare, Franklin, Burns, Ferguson, and Mozart, anticipates its effects, in so far that the individuals educate themselves.

In saying, then, that, *cæteris paribus*, size is a measure of

¹ *Trans. of the Phren. Soc.* p. 308.

power, phrenologists demand no concessions which are not made to physiologists in general ; among whom, in this as in other instances, they rank themselves.

There is a great distinction between *power* and *activity* of mind ; and it is important to keep this difference in view. *Power*, strictly speaking, is the *capability* of thinking, feeling, or perceiving, however small in amount that capability may be ; and in this sense it is synonymous with *faculty* : *action* is the *exercise of power* ; while *activity* denotes *the quickness*, great or small, *with which the action is performed*, and also the degree of *proneness to act*. The distinction between power, action, and activity of the mental faculties, is widely recognised by describers of human nature. Thus, Cowper says of the more violent affective faculties of man :—

“ His passions, like the watery stores that sleep
Beneath the smiling surface of the deep,
Wait but the lashes of a wintry storm,
To frown, and roar, and shake his feeble form.”—*Hope*.

And again :—

“ In every heart
Are sown the sparks that kindle fiery war ;
Occasion needs but fan them, and they blaze.”
The Task, B. 5.

Dr Thomas Brown, in like manner, speaks of *latent propensities*—that is to say, powers not in action. “ Vice already formed,” says he, “ is almost beyond our power ; it is only in the state of latent propensity that we can with much reason expect to overcome it by the moral motives which we are capable of presenting :” and he alludes to the great extent of knowledge of human nature requisite to enable us “ to distinguish this propensity before it has expanded itself, and even before it is known to the very mind in which it exists, and to tame those passions which are never to rage.”¹ “ Nature,” says Lord Bacon, “ will be buried a

¹ *Lectures*, vol. i. p. 60. See also Dr Blair’s Sermon on the Character of Hazael ; *Sermons*, vol. ii.

great time, and yet revive upon the occasion or temptation ; like as it was with Æsop's damsel, turned from a cat to a woman, who sat very demurely at the board's end till a mouse ran before her." In short, it is plain that we may have the *capability* of feeling an emotion—as anger, fear, or pity,—and that yet this power may be inactive, insomuch that, at any particular time, these emotions may be totally absent from the mind ; and it is no less plain, that we may have the *capability* of seeing, tasting, calculating, reasoning, and composing music, without actually performing these operations.

It is equally easy to distinguish *activity* from *action* and *power*. When power is exercised, the action may be performed with very different degrees of rapidity. Two individuals may each be solving a problem in arithmetic ; but one may do so with far greater quickness than the other—in other words, his faculty of Number may act more rapidly. He who solves abstruse problems slowly, manifests much power with little activity ; while he who can quickly solve easy problems, and them alone, has much activity with little power. The calculator who works difficult problems with great speed, manifests in a high degree both power and activity of the faculty of Number.

As commonly employed, the word *power* is synonymous with *strength*, or *much power*, instead of denoting mere *capacity*, *whether much or little, to act* ; while, by *activity*, is usually understood *much quickness of action, and great proneness to act*. As it is desirable, however, to avoid ambiguity, I shall employ the words *power* and *activity* in the sense first before explained (p. 166) ; and to *high* degrees of power, I shall apply the terms *energy*, *intensity*, *strength*, or *vigour*,—while to great activity I shall apply the terms *vivacity*, *agility*, *rapidity*, or *quickness*.

In physics, strength is quite distinguishable from quickness. The balance-wheel of a watch moves with much rapidity, but so slight is its impetus that a hair would suffice to stop it ; the beam of a steam-engine progresses slowly

and massively through space, but its energy is prodigiously great.

In muscular action, these qualities are recognised with equal facility as different. The greyhound bounds over hill and dale with animated agility; but a slight obstacle would counterbalance his momentum, and arrest his progress. The elephant, on the other hand, rolls slowly and heavily along; but the impetus of his motion would sweep away an impediment sufficient to resist fifty greyhounds at the summit of their speed.

In mental manifestations (considered apart from organization) the distinction between energy and vivacity is equally palpable. On the stage, Mrs Siddons and Mr John Kemble were remarkable for the solemn deliberation of their manner, both in declamation and in action, and yet they were splendidly gifted with energy. They carried captive at once the sympathies and the understanding of the audience, and made every man feel his faculties expanding, and his whole mind becoming greater under the influence of their power. Other performers, again, are remarkable for agility of action and elocution, who, nevertheless, are felt to be feeble and ineffective in rousing an audience to emotion. *Vivacity* is their distinguishing attribute, with an absence of *vigour*. At the bar, in the pulpit, and in the senate, the same distinction prevails. Many members of the learned professions display great fluency of elocution and felicity of illustration, surprising us with the quickness of their parts, who, nevertheless, are felt to be neither impressive nor profound. They exhibit acuteness without depth, and ingenuity without comprehensiveness of understanding. This also proceeds from vivacity with little energy. There are other public speakers, again, who open heavily in debate—their faculties acting slowly, but deeply, like the first heave of a mountain-wave. Their words fall like minute-guns upon the ear, and to the superficial they appear about to terminate ere they have begun their efforts. But even their first accent is one of power—it rouses and arrests attention; their very pauses

are expressive, and indicate gathering energy to be embodied in the sentence that is to come. When fairly animated, they are impetuous as the torrent, brilliant as the lightning's beam, and overwhelm and take possession of feebler minds, impressing them irresistibly with a feeling of gigantic power.

The distinction between vivacity and energy is well illustrated by Cowper, in one of his letters. "The mind and body," says he, "have in this respect a striking resemblance of each other. In childhood they are both nimble, but not strong; they can skip and frisk about with wonderful agility, but hard labour spoils them both. In maturer years they become less active but more vigorous, more capable of fixed application, and can make themselves sport with that which a little earlier would have affected them with intolerable fatigue." Dr Charlton also, in his *Brief Discourse concerning the different Wits of Men*, has admirably described two characters, in one of which strength is displayed without vivacity, and in the other vivacity without strength: the latter he calls the man of "nimble wit;" the former, the man of "slow but sure wit."¹ In this respect the French character may be contrasted with the Scotch.

As a general rule, the largest organs in each head have naturally the greatest, and the smallest the least, tendency to act, and to perform their functions with rapidity

The temperaments also indicate the amount of this tendency. The nervous is the most vivacious, next the sanguine, then the bilious, while the lymphatic is characterized by proneness to inaction.

In a lymphatic brain, great size may be present, and few manifestations occur through sluggishness; but if a strong external stimulus be presented, energy often appears. If the brain be very small, no degree of stimulus, either external or internal, will cause great power to be manifested.

¹ The work of Dr Charlton, who was physician to Charles II., was published in 1675. The passages referred to will be found in *The Phrenological Journal*, vol. vii. p. 599.

A certain combination of organs—namely, Combativeness, Destructiveness, Hope, Firmness, Acquisitiveness, and Love of Approbation, all large—is favourable to general vivacity of mind ; and another combination—namely, Combativeness, Destructiveness, Hope, Firmness, and Acquisitiveness, small or moderate, with Veneration and Benevolence large—is frequently attended with sluggishness of the mental character ; but the activity of the whole brain is constitutionally greater in some individuals than in others, as already explained. It may even happen, that, in the same individual, one organ is naturally more active than another, without reference to size ; just as the optic nerve is sometimes more irritable than the auditory : but this is by no means a common occurrence. Exercise greatly increases activity as well as power ; and hence arise the benefits of education. Dr Spurzheim thinks that “long fibres produce more activity, and thick fibres more intensity.”

The doctrine that size is a measure of power, is not to be held as implying, that much power is the only, or even the most valuable quality, which a mind in all circumstances can possess. To drag artillery over a mountain, or a ponderous waggon through the streets of London, we would prefer an elephant, or a horse of great size and muscular power ; while, for graceful motion, agility and nimbleness, we would select an Arabian palfrey. In like manner, to lead men in gigantic and difficult enterprises—to command by native greatness, in perilous times, when law is trampled under foot—to call forth the energies of a people, and direct them against a tyrant at home, or an alliance of tyrants abroad—to stamp the impress of a single mind upon a nation—to infuse strength into thoughts, and depth into feelings, which shall command the homage of enlightened men in every age—in short, to be a Bruce, Bonaparte, Luther, Knox, Demosthenes, Shakspeare, Milton, or Cromwell—a large brain is indispensably requisite : But to display skill, enterprise, and fidelity, in the various professions of civil life—to cultivate, with success, the less arduous branches of philoso-

phy—to excel in acuteness, taste, and felicity of expression—to acquire extensive erudition and refined manners—a brain of a moderate size is perhaps more suitable than one that is very large; for wherever the energy is intense, it is rare that delicacy, refinement, and taste, are present in an equal degree. Individuals possessing moderate-sized brains easily find their proper sphere, and enjoy in it scope for all their abilities. In ordinary circumstances, they distinguish themselves; but they sink when difficulties accumulate around them. Persons with large brains, on the other hand, do not readily attain their appropriate place: common occurrences do not rouse or call them forth; and, while unknown, they are not trusted with great undertakings. Often, therefore, such men pine and die in obscurity. When, however, they attain their proper element, they are conscious of greatness, and glory in the expansion of their powers. Their mental energies rise in proportion to the obstacles to be surmounted, and blaze forth in all the magnificence of self-sustaining energetic genius, on occasions when feebler minds would sink in despair.¹

The term *faculty* is used to denote a particular power of feeling, thinking, or perceiving, connected with a particular part of the brain. Phrenologists consider man by himself, and also compare him with other creatures. When the lower animals manifest the same propensities and intellectual operations as those displayed by man, the faculties which produce them are held to be common to both. A faculty is admitted as primitive,—

1. Which exists in one kind of animal, and not in another;
2. Which varies in the two sexes of the same species;
3. Which is not proportionate to the other faculties of the same individual;

¹ See remarks on the character of Cromwell, in *The Phrenological Journal*, iii. 482.

4. Which does not manifest itself simultaneously with the other faculties ; that is, which appears or disappears earlier or later in life than other faculties ;
5. Which may act or rest singly ;
6. Which is propagated in a distinct manner from parents to children ; and,
7. Which may singly preserve its proper state of health or disease.¹

As phrenological observation establishes the existence of a plurality of mental faculties, each connected with a particular part of the brain, the question occurs, Is the mind simple, or is it an aggregate of separate powers ?² It is extremely difficult to give a satisfactory answer to this inquiry. Looking at the facts presented to us by observation, the most obvious inference seems to be, that the mind consists of an aggregate of powers, and that one of them supplies the feeling of Personal Identity, or the *I* of consciousness, to which, as their substratum, all the other feelings and capacities bear reference. This view of personal identity is strongly supported by some of the phenomena of madness ; for patients are sometimes insane in this feeling, and in no other faculty of the mind. Such individuals lose all consciousness of their past and proper personality, and imagine themselves different persons altogether ; while, with the exception of this erroneous impression, they feel and think correctly. Under the head of Memory, in a subsequent part of this work, an abstract will be found of a case of divided personality, occurring through disease, reported by Dr Dyce of Aberdeen to Dr Henry Dewar, and by him published in the *Transactions of the Royal Society of Edinburgh*. A similar case is stated in the *Medical Repository*, communicated by Dr Mitchell to the Reverend Dr Nott, dated January 1816. “When I was employed,” says he, “early in December 1815, with several other gentlemen, in doing the duty of a visitor to the United States Military Academy at West Point, a very extraordi-

¹ Spurzheim's *Phrenology*, p. 126.

² See *Phren. Journ.* vol. i. p. 205.

nary case of double consciousness in a woman, was related to me by one of the professors. Major Ellicott, who so worthily occupies the mathematical chair in that seminary, vouched for the correctness of the following narrative, the subject of which is related to him by blood, and an inhabitant of one of the western counties of Pennsylvania :—Miss R——— possessed naturally a very good constitution, and arrived at adult age without having it impaired by disease. She possessed an excellent capacity, and enjoyed fair opportunities to acquire knowledge. Besides the domestic arts and social attainments, she had improved her mind by reading and conversation, and was well versed in penmanship. Her memory was capacious, and stored with a copious stock of ideas. Unexpectedly, and without any forewarning, she fell into a profound sleep, which continued several hours beyond the ordinary term. On waking, she was discovered to have lost every trait of acquired knowledge. Her memory was *tabula rasa*—all vestiges, both of words and things, were obliterated and gone. It was found necessary for her to learn every thing again. She even acquired, by new efforts, the art of spelling, reading, writing, and calculating, and gradually became acquainted with the persons and objects around, like a being for the first time brought into the world. In these exercises she made considerable proficiency. But, after a few months, another fit of somnolency invaded her. On rousing from it, she found herself restored to the state she was in before the first paroxysm ; but was wholly ignorant of every event and occurrence that had befallen her afterwards. The former condition of her existence she now calls the Old State, and the latter the New State ; and she is as unconscious of her double character as two distinct persons are of their respective natures. For example, in her old state she possesses all her original knowledge ; in her new state, only what she acquired since. If a gentleman or lady be introduced to her in the old state, and *vice versa* (and so of all other matters), to know them satisfactorily she must learn them in both states. In the old state, she possesses

fine powers of penmanship, while in the new she writes a poor awkward hand, having not had time or means to become expert. During four years and upwards, she has undergone periodical transitions from one of these states to the other. The alterations are always consequent upon a long and sound sleep. Both the lady and her family are now capable of conducting the affair without embarrassment. By simply knowing whether she is in the old or new state, they regulate the intercourse, and govern themselves accordingly. A history of her curious case is drawing up by the Reverend Timothy Aldin of Meadville." I often saw a clergyman of the Church of Scotland, who, having become insane, believed himself to be Napoleon Bonaparte, and under this conviction felt the most poignant remorse for having commanded the massacre at Jaffa, and occasioned the death of so many brave men in war.¹ Such cases as the foregoing have led some persons to the inference, that the feeling of personal identity is a primitive mental affection, connected with a particular organ, and hence liable separately to disease. This view corresponds with the apprehension of mankind in general; for popular language is framed on the principle of the *I* of consciousness being distinct from the other mental affections. We speak of *evil thoughts* intruding themselves into *our* mind; and of *our* having *strong desires* which *we* forbear to indulge. In such expressions, the *our* and *we* seem to mean the principle of personal identity; and the evil thoughts and desires appear to be regarded as affections of that principle, originating in sources distinct from it, and different from one another.

The more general opinion of philosophers is, that the mind is a simple and indivisible essence, and that the several

¹ In the town of Birmingham, in May 1838, I saw Mary Parker, aged sixteen, while she was subject to the phenomena of divided consciousness, or double personality. Her case closely resembles those reported by Dr Dyce and Dr Mitchell. The particulars are stated in *The Phrenological Journal*, xi. 404. I examined her head, but am not able to offer any explanation of the phenomena.

faculties are merely different states of it. Such is the light in which the subject is viewed by Dr Gall. “In my opinion,” says he, “there exists but one single principle, which sees, feels, tastes, hears, touches, thinks, and wills. But in order that this principle may become capable of perceiving light and sound,—of feeling, tasting, and touching,—and of manifesting the different kinds of thought and propensity,—it requires the aid of various material instruments, without which the exercise of all these faculties would be impossible.”¹

This view is espoused also by the Reverend Dr David Welsh, Professor of Church History in the University of Edinburgh, who successfully shews that it is consistent with the phrenological doctrine of a plurality of organs. “The leading doctrine of Phrenology,” says he, “is, that different portions or organs of the brain are connected with the primitive feelings of the mind. The truth of this position can obviously be ascertained only by observation. But taking it for granted that it is true, it may be asked how it can be reconciled with the great principle to which so frequent reference has been made, that the powers, thoughts, and feelings of the mind are not different from the mind, but merely the mind itself existing in different states ?

“It requires but little reflection to be satisfied that the introduction of cerebral organs does not in any degree affect Dr Brown’s leading principle. The cerebral organs are not the mind—nor is any state of these organs the mind. The mind we believe to be a simple and indivisible substance. And the only difference that the doctrines of Phrenology introduce in regard to Dr Brown’s principle is, that, instead of the feelings and thoughts being merely the relations of the simple substance *mind* to its own former states or to external objects, they are the relations of the simple substance *mind* to certain portions of the encephalon.

“In looking upon any object—as snow—we have the no-

¹ *Sur les Fonctions du Cerveau*, i. 243.

tion of a certain colour. Now the notion is not in the snow but in the mind ; that is, the notion of colour is the mind existing in a certain relation to an external object. But it is allowed on all hands, that there is an intervening step between the snow and the mind : there is an affection of the optic nerve. The notion of colour, then, is the mind existing in a certain relation to the optic nerve. It will be conceded that this does not alter the question as to the simplicity of the mind. And if this is conceded, it is abundantly obvious that another step in the process might be conceived without taking away from the simplicity of the immaterial part, and that, instead of an affection of the optic nerve being the immediate antecedent of the notion of colour, it might be a particular portion of the encephalon. As the notion of colour, upon this supposition, is a relation of the mind to the organ of colour, it follows, that, if that organ were changed in any respect, the state of the mind would also be changed. Thus, if it were larger, or of a finer structure, or more active, the perception of colour would be more delicate, or quick, or pleasing. The same remarks might be extended to all the organs. Where the organ of Causality is large, as in the case of Dr Brown himself, then there will be a tendency to reason ; which tendency is a state of the mind in relation to a material organ, which state would have been different had the organ been different.

“ A multitude of organs may be all affecting the mind at the same instant, and in that case a variety of feelings will be experienced. But still the mind is simple, and it is only its relations to these different organs that are complex.

“ When we say, then, that when we have any power, as, for example, of reasoning, we are not to suppose that the power is different from the mind. There is a material organ which is separate from the mind, but the perception of relation is a state wholly mental. One state of the organ may give the perception of relation, another the desire to perceive or discover it ; but the perception and desire are both attributes not of matter but of mind.—The effect of the organ

being large or small, active or inactive, in different individuals, or upon the same individual at different times, is the subject to which I alluded in the chapter on Cause and Effect, as that which Dr Brown had not considered."¹

Dr Caldwell, again, argues strongly in favour of the singleness of the power of the mind. "We do not believe," says he, "that in a *separate* or *insulated* capacity, the mind either does or can possess a number of distinct faculties, but that it is *as single in its power* as it is *in its substance*. It is a quickening and operative principle, essential to all the mental faculties, but does not by any means *possess them itself*. It is no more made up of *parts*, in relation to *power*, than in relation to *substance*. In both respects, it is *one and indivisible*.

"To advocate a proposition the opposite of this, is to contend that the mind, like the body, is *compound*. To be *single* in essence and *multiplex* in power, implies a contradiction. Conformably to the present arrangement of creation, we consider such a case *impossible*. In support of a belief the reverse of this, no evidence presents itself, either *primitive* or *analogical*. On the contrary, all attainable evidence is against it.

"We can conceive of but one possible way in which the human *mind*, *single* in its essence, can be tributary to the existence of a *multiplicity* of faculties. That is, by being united to a *system* of organs, instead of a *single* one, and serving as the spring of action to the whole. In this case, the multiplicity of the organs, each different in structure from the other, although acting from the same principle and impulse, will secure, in the result, the requisite variety. For every organ must necessarily act in a manner corresponding with its specific structure.

"We cannot, therefore, withhold an expression of our deliberate belief, that the doctrine of the perfect *unity* of the human mind, both in *substance* and *power*, constitutes, most certainly, that foundation of the science of Phrenology that

² Welsh's *Life of Dr Thomas Brown*, p. 521.

nothing can shake, and which the progress of time and improvements in knowledge will only render more stable and secure. For if it be true, that the mind, as a *unit*, possesses but unity of power, it follows, of necessity, that the multiplicity of power manifested in the functions of the mental faculties must arise from a *multiplex* system of cerebral organs, acting in conjunction with the mind.”¹

It is not necessary in studying Phrenology to decide which of these views is the correct interpretation of nature ; because the effects of the organs on the mind are the same, whichever of them be adopted. If the mind consists of *an aggregate of powers*, then each acts by means of a particular organ, and is manifested with a degree of energy varying with its size. Viewed as *one simple substance*, capable of existing in a variety of states, it enters into each state by means of a separate organ : when the organs are spontaneously *active*, they induce their relative states ; without their influence these cannot take place : when they are large, the states are excited vigorously ; when they are small, these exist feebly. The reader may therefore adopt whichever theory appears to himself preferable. Without meaning to deny that the latter view appears to me the more plausible, I shall, in the following pages, treat of the faculties as *distinct* mental powers, connected with separate organs ; because, by doing so, I shall be able to bring out the doctrine more simply and luminously, than by considering them as merely particular states of the general power—the Mind : and this language, moreover, is correct even on what seems to be the true hypothesis ; because, according to this view, when the organ of Causality, for example, is largely possessed, the individual is capable of reasoning logically and acutely—of which mental act he is incapable when that organ is greatly deficient. The word *faculty* or *power*, therefore, is used to express the quality possessed in the one case and not in the other, and which is

¹ Preliminary Discourse in answer to Lord Jeffrey’s Criticism on Phrenology in the 88th No. of the *Edinburgh Review*, prefixed to Dr Caldwell’s *Elements of Phrenology*, 2d edit. p. 16.

legitimately designated, and universally recognised, by either of these terms.

“It has occurred to me,” continues Dr Welsh, “that another difficulty of a metaphysical nature may suggest itself in regard to the principles of Phrenology. It may be asked, What is the soul when deprived of the cerebral organs? But the system of Dr Brown affords us no more light upon this point than the system of Dr Gall. Indeed, a passage which I have quoted from his Lectures shews that he considered that those who engaged in such inquiries were ignorant of the limits of our faculties. It is only experience that can teach us in what state the soul exists when separated from the body. And in this sense the precept of the poet holds equally in a scientific and in a religious point of view,

‘Wait the great teacher Death, and God adore.’”

Mr H. C. Watson gives the following definitions in *The Phrenological Journal*, vol. xi. p. 437 :—

“1. Mind is not soul. Phrenology teaches us nothing about the soul. We must look to Revelation alone for any instruction about the nature and destination of the soul. (Many writers seem to identify mind and soul as one.)

“2. Mind is not the name of any existent being, either generally or individually. It is a term to indicate collectively certain acts or states called mental. In application, it may be considered analogous to the terms respiration, digestion, sensation, or motion ;—terms which indicate actions only, and not beings. (The term *mentation* might be advantageously substituted for that of *mind*.)

“3. If materialism mean that the soul is a being composed of matter, Phrenology and materialism can have no connexion : because Phrenology discloses nothing about the soul.

“4. If materialism mean that the mind is a being composed of matter, it is a denial that the definition of the nature of mind, above given, is philosophically correct. To us this denial appears equally absurd, as would be a denial that respiration is an action, by asserting it to be a being com-

posed of matter, or the same of sensation, or motion, or digestion.

“ 5. If materialism mean only a belief that matter is capable of becoming an instrument for feeling and thinking, this must be the creed of all consistent physiologists, including phrenologists.

“ 6. In no other sense, than the last, can materialism and Phrenology be properly connected. But it is general physiology that ‘leads’ to materialism in this sense. Phrenologists must adopt the creed, if true in general physiology.”

DIVISION OF THE FACULTIES.

Dr Spurzheim divides the faculties into two orders, FEELINGS and INTELLECT, or *affective* and *intellectual* faculties.—The feelings are subdivided by him into two genera, denominated PROPENSITIES and SENTIMENTS. He applies the name *propensities* to indicate internal impulses, which invite only to certain actions ; and *sentiments* to designate other feelings, not limited to inclination alone, but which have an emotion of a peculiar kind superadded. Acquisitiveness, for example, is a mere impulse to acquire ; Veneration gives a tendency to worship, accompanied by a particular emotion, which latter quality is the reason of its being denominated a sentiment.

The second order of faculties make us acquainted with objects which exist, and their qualities and relations ; they are called INTELLECTUAL. These are subdivided by Dr Spurzheim into four genera. The first includes the external senses and voluntary motion ; the second, those internal powers which perceive existence, or make man and animals acquainted with external objects and their physical qualities ; and the third, the powers which perceive the relations of external objects. These three genera are named *perceptive faculties*. The fourth genus comprises the faculties which act on all the other powers—which compare, judge, and discriminate : these are named *reflective* faculties.

The names of the faculties employed in this work are, with few exceptions, those suggested by Dr Spurzheim. To designate *propensity*, he adds to a root or fundamental word the termination *ive*, as indicating *the quality of producing*; the termination *ness*, denotes the abstract state, as Destructiveness. The termination *ous* characterizes a *sentiment*; as cautious, conscientious. To these is added *ness*, to express the abstract quality, as Cautiousness, Conscientiousness. The names of the *intellectual* faculties are easily understood, and do not here require any particular explanation.

Considerable difficulty attends the arrangement of the faculties and organs. In the first and second editions of this work, they were arranged and numbered according to the order adopted in Dr Spurzheim's *Physiognomical System*, published in 1815. In that arrangement, the organs common to man and the lower animals were treated of first, beginning with the lowest, and ascending. Next came the organs of the sentiments peculiar to man; and, lastly, the organs of intellect. Since 1815, the great divisions of this classification have been retained, but repeated alterations have been made by Dr Spurzheim in the arrangement of the details. It appears impossible to arrive at a correct classification until all the organs, and also the primitive faculty or ultimate function of each shall be definitely ascertained, which is not at present the case. Till this end shall be accomplished, every interim arrangement will be in danger of being overturned by subsequent discoveries. In the mean time, however, for the sake of uniformity, I shall adopt the arrangement followed by Dr Spurzheim in the third edition of his *Phrenology*, published in 1825¹. During his visit to Edinburgh in 1828, he demonstrated the anatomy of the brain, and traced out the connection between the organs, in a manner so clear and satisfactory, that the basis of his arrangement appeared founded in nature. Dr Gall seems not to have adopted any philosophical principle of classification; but it is proper that

¹ See objections to Dr Spurzheim's classification of the faculties, and suggestions for improved arrangements, in the Appendix, No. II.

his names and order should be known. I shall, therefore, add a table of these to the present work.¹

In the case of many of the organs, observations have been made to such an extent, that the functions are held to be *ascertained*; and in regard to others, where the observations have been fewer, the functions are stated as *probable*. There is little or no difference of opinion among phrenologists in regard to the kind of manifestations which accompany the organs set down as established; their differences touch only the result of the metaphysical analysis of the feelings and intellectual powers, and the order of their arrangement.

I shall notice briefly the history of the discovery of each organ, and state a few cases in illustration of its function: but the reader is respectfully informed, that I do not pretend to bring forward all the evidence on which Phrenology is founded. I beg leave to refer those readers who are fond of perusing cases, to Dr Gall's work, in six volumes, entitled, *Sur les Fonctions du Cerveau, &c.*; to Dr Spurzheim's work, *Phrenology*; the *Transactions of the Phrenological Society*; *The Phrenological Journal*; the *Journal de la Société Phrénologique de Paris*; and *The American Phrenological Journal*. Those persons who desire philosophical conviction, are requested to resort directly to *nature*, which is always within their reach; for WELL-GROUNDED CONVICTION CAN BE OBTAINED ONLY BY PERSONAL OBSERVATION.

NATURAL LANGUAGE OF THE FACULTIES.

Drs Gall and Spurzheim have investigated the laws which determine the natural language of the individual faculties, and their exposition of them is highly interesting and instructive.² The leading principle is, that the motions are always in the direction of the seat of the organs. Self-Esteem, for instance, produces an attitude in which the head and body are

¹ Appendix, No. III.

² See Gall *Sur les Fonctions du Cerveau*, v. 440, and Spurzheim's *Physiological System*, Lond. 1815, p. 398.

held high, and reclining backwards; Firmness gives erectness and stiffness to the person; Cautiousness carries the head backward and to the side, Veneration upward and forward, and so on. Each organ, when *predominantly powerful and active*, produces these motions and attitudes. It also gives a peculiar expression to the voice and features: thus Destructiveness communicates to the voice a hard ringing quality, and to the countenance a dark harsh expression; while Love of Approbation gives a flattering and pleasing tone to the voice, and gracious smiles to the face. The modes of expression attached to each faculty, being natural, are universal, and are understood in all countries and all ages. They are the foundations of pantomime, and also of expression in painting and sculpture. The knowledge of them renders Physiognomy scientific; without this knowledge, it is a mere empirical art, leading as often to erroneous as to sound conclusions.

ORDER I.—FEELINGS.

GENUS I.—PROPENSITIES.

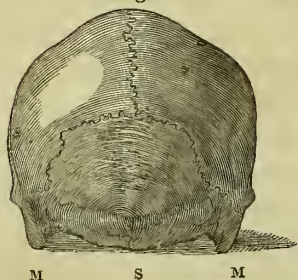
The faculties falling under this genus do not form ideas, or procure knowledge; their sole function is to produce a propensity of a specific kind. These faculties are common to man with the lower animals.

I.—AMATIVENESS.

The cerebellum (FF, Pl. IV. and V.) is the organ of this propensity,¹ and is situated between the mastoid processes

¹ Partes genitales, sive testes hominibus et fœminis uterus, propensio-
nem ad venerem excitare nequeunt. Nam in pueris veneris stimulus
eminis secretioni sæpè antecedit. Plures eunuchi, quanquam testibus
privati, hanc inclinationem conservant. Sunt etiam fœminæ quæ sine
utero natæ, hunc stimulum manifestant. Hinc quidam ex doctrinæ nostræ

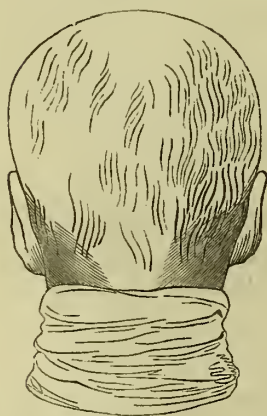
(M M, Fig. 1,) lying immediately behind and a little below Fig. 1.



the external opening of the ear on each side, and the projecting point or process S, in the middle of the transverse ridge of the occipital bone. In the cut on p. 116, No. 48 shews the situation of this process in a section of the skull. The size of the cerebellum is indicated by the extension

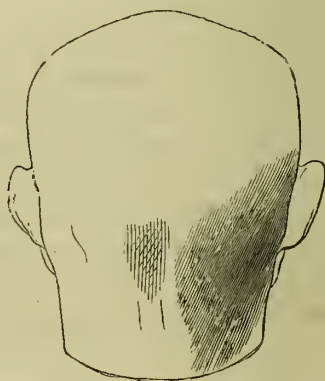
of the inferior surface of the occipital bone backwards and downwards, or by the thickness of the neck at these parts, between the ears. The difference between a moderate and a large development, will be understood by observing the thickness of the top of the neck in Figs. 2 and 3.

Fig. 2.
REV. MR M.¹



Cerebellum moderate.

Fig. 3.
LINN.



Cerebellum large.

inimicis, harum rerum minimè inscii, seminis præsentiam in sanguine contendunt, et hanc causam sufficientem existimant. Attamen argumenta hujus generis verâ physiologiâ longè absunt, et vix citatione digna videntur. Nonnulli etiam hujus inclinationis causam in liquore prostatico quærun; sed in senibus aliquandò fluidi prostatici secretio, sine ullâ veneris inclinatione, copiosissima est.—Spurzheim's *Phrenology*, p. 128.

¹ *Trans. of the Phren. Soc.* p. 320.

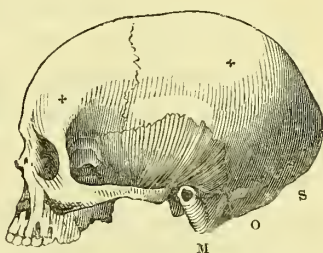
² *Phren. Journ.* vol. x. p. 207.

In some individuals, the lobes of the cerebellum descend or droop, increasing the convexity of the occipital bone, rather than its expansion between the ears. In Fig. 4, O represents a large development downwards, of that part of the base of the occipital bone commonly called the posterior occipital swelling or fossa. In such cases, the projection may be felt during life by the hand, if firmly pressed on the neck.

Fig. 4.



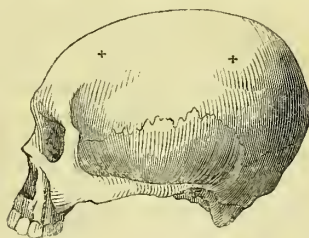
Fig. 5.



In the skull Fig. 5, the distance between M, the mastoid process, and S, the spine of the transverse ridge of the occipital bone, is large, although the occipital swellings, O, do not droop as in the preceding skull. In both Figs. 4. and 5. the cerebellum is large, but smaller in 5. In the former, however, the large size is indicated by the drooping of the bone; in the latter, by the large circumference backwards from ear to ear, or by a thick neck. The external muscles of the neck are attached to the skull in the line of this circumference.

In this skull (Fig. 6.), the cerebellum is small, and it will be seen that the base of the occipital bone extends only a short distance backwards from the mastoid process, while the occipital swelling does not descend as in Fig. 4.

Fig. 6.



Within the skull, and on the same plane with the

occipital process, lies the *tentorium*, a strong membrane, which is co-extensive with the upper surface of the cerebellum, and separates it from the brain. It is inserted into the inner surface of the occipital bone at 48 in the Fig. on p. 116. In some animals which leap, this separation is produced by a thin plate of bone; but Dr Vimont says that this rule is not universal, as the tentorium is membranous in the squirrel, hare, and in some other animals which leap. At 48 in the Fig. referred to, there is nearly half an inch of space between the cerebellum and the commencement of the posterior lobe of the brain which lies above it.

In order to ascertain the functions of the cerebellum, Dr Gall compared its size during life with the energy of the instinct of reproduction. In this investigation, it is necessary to consider the nature of the propensity, and the great size of its organ. The cerebellum, even when moderately developed, is a large organ. It generally comes into action, not, like the others, gradually, and in the course of a series of years, but rapidly and with great vigour at the arrival of puberty. Persons unacquainted with these facts are liable to err in their estimate of the proportion which should exist between the strength of the propensity and the size of the organ. They expect to find a large cerebellum, when a practised phrenologist would look for one of only moderate dimensions. To remove this source of error, I observe that, from the cerebellum being a large organ, and from its coming rapidly into play, the impulses which it communicates are often felt by the individual to be superior in intensity and urgency to those of the other feelings which he had previously experienced; and he concludes that, therefore, his cerebellum must be one of the largest possible dimensions—which may be highly erroneous. Even a moderate-sized cerebellum, and much more so one that is of full size, combined with an active temperament,¹ produces feelings of very considerable strength. The objects which excite the instinct (beings of

¹ The influence of the temperaments has already been explained in this work, p. 49.

the opposite sex) are frequently presented to the mind, invested with all the attractive influences of youth, grace, beauty,—often heightened too by the highest mental accomplishments, and the most exquisite refinement ; and considering the size of the cerebellum, even when moderate, in relation to that of the largest organs of the sentiments, Benevolence, for instance, or Veneration, we need not be surprised that the feeling of sexual love should, even in such cases, be powerfully experienced.

When the cerebellum is really large, and the temperament active, the individual becomes distinguished from his fellows by the predominance of his amorous propensities. In all his vacant moments, his mind dwells on objects related to this faculty, and the gratification of it is the most important object of his thoughts. If his moral and intellectual organs be weak, he will, without scruple, invade the sanctity of unsuspecting innocence and connubial bliss, and become a deceiver, destroyer, and sensual fiend of the most hideous description.

These observations will enable the reader to understand what degrees of intensity in the instinct may be expected to accompany different degrees of development of the organ.

The cerebellum is connected with the brain ; for its fibres originate in the *corpora restiformia*, from which also the organs of other animal propensities arise. Certain fibres originating in that source, after passing through the optic *thalami*, expand into the organs of Philoprogenitiveness, Adhesiveness, Combativeness, Destructiveness, &c. The nerves of sight (2, 2, pl. iv.) can be traced into the *nates*, lying very near the same parts ; while the nerves of hearing (8, same plate), spring from the medullary streaks on the surface of the fourth ventricle, lying immediately under the cerebellum. These arrangements of cerebral and nervous structure correspond with the facts, that the eyes express most powerfully the passion of love ; that abuses of the amative propensity produce blindness and deafness ; and that this feeling subsequently excites Adhesiveness, Combative-

ness, and Destructiveness, into vivid action—rendering attachment irresistibly strong, and inspiring even females, who, in ordinary circumstances, are timid and retiring, with courage and determination when under its influence.

The cerebellum consists of three portions, a central and two lateral. The central is in direct communication with the *corpora restiformia*, and the two lateral portions are brought into communication with each other by the *pons Varolii*. (See fig. 5, p. 116; and plate iv.)

Dr Gall was led to the discovery of the function of this organ in the following manner. He was physician to a widow of irreproachable character, who was seized with nervous affections, to which succeeded severe nymphomania. In the violence of a paroxysm, he supported her head, and was struck with the great size and heat of the neck. She stated, that heat and tension of these parts always preceded a paroxysm. He followed out, by numerous observations, the idea, suggested by this occurrence, of connexion between the amative propensity and the cerebellum, and he soon established the point to his own satisfaction.

This faculty gives rise to the sexual feeling. In newly born children, the cerebellum is the least developed of all the cerebral parts. At this period, the upper and posterior part of the neck, corresponding to the cerebellum, appears attached almost to the middle of the base of the skull. The weight of the cerebellum is then to that of the brain as one to thirteen, fifteen, or twenty. In adults, it is, as one to six, seven, or eight. The cerebellum enlarges much at puberty, and attains its full size between the ages of eighteen and twenty-six. The neck then appears greatly more expanded behind. In general, the cerebellum is less in females than in males. In old age it frequently diminishes. There is no constant proportion between the brain and it in all individuals; just as there is no invariable proportion between this feeling and the other powers of the mind. Sometimes the cerebellum is largely developed before the age of puberty. This was the case in a child of three years of age, in a

boy of five, and in one of twelve ; and they all manifested the feeling strongly. In the cast of the skull of Dr Hette, sold in the shops, the development is small, and the feeling corresponded.¹ In the cast of the skull of J. L., a convict who died at Chatham, it is very large, and there was a proportionate vigour of the propensity.² In the casts of Mitchell and Dean, it is very large, and the manifestations were in proportion. Farther evidence of the functions of this organ will be found in Dr Gall's work *Sur les Fonctions du Cerveau*, tome iii. pp. 225-414 ; and other cases are mentioned in the following works : *Journal of Pathological Observations kept at the Hospital of the Ecole de Médecine*, No. 108, 15th July 1817, case of Jean Michel Brigand ; *Journal of the Hôtel Dieu*, case of Florat, 19th March 1819, and of a woman, 11th November 1818 ; Wepferus, *Historia Apoplecticorum*, edit. 1724, page 487 ; *Philosophical Transactions*, No. 228, case by Dr Tyson ; *Mémoires de Chirurgie Militaire, et Campagnes*, by Baron Larrey, vol. ii. p. 150, and vol. iii. p. 262 ; Serres *On Apoplexy* ; Richerand's *Elements of Physiology*, pp. 379, 380, Kerrison's translation ; Dr Spurzheim's *Phrenology*, p. 130 ; *The Phrenological Journal*, vol. v. p. 98, 311, 636 ; vii. 29 ; viii. 377, 529 ; ix. 188, 383, 525 ; xi. 78 ; xiv. 380, 240 ; xv. 340 ; Dr Andrew Combe's *Observations on Mental Derangement*, p. 161 ; *The London Medical and Surgical Journal*, 21st June and 23d August 1834, vol. v. p. 649, and vol. vi. p. 125 ; *The Edinburgh Medical and Surgical Journal*, July 1839, p. 283, and April 1840, p. 519 ; and *The Dublin Journal of Medical Sciences*, September 1840, p. 151. Dr Caldwell has given, in *The Annals of Phrenology*, vol. i. p. 80-84, a summary of the principal reasons for considering the cerebellum to be the organ of Amativeness.

"It is impossible," says Dr Spurzheim, "to unite a greater number of proofs in demonstration of any natural truth, than may be presented to determine the function of the cerebellum ;" and in this I agree with him. Those who have not

¹ See *Phren. Journ.* vi. 600.

² Id. iv. 258.

read Dr Gall's section on this organ, can form no adequate conception of the force of the evidence which he has collected.¹

M. Flourens, by whom certain experiments were performed on the lower animals, chiefly by inflicting injuries on their cerebella, contends that these experiments shew that the cerebellum serves for the regulation of muscular motion. "On removing the cerebellum," says he, "the animal loses the power of executing combined movements." Magendie performed similar experiments on the cerebellum, and found that they occasioned only an *irresistible tendency in the animal to run, walk, or swim backwards*. He made experiments also on the *corpora striata* and *tubercula quadrigemina*, with the following results: When one part of these was cut, the animal *rolled*; when another, it *went forward, and extended its head and extremities*; when another, it *bent all these*: so that, according to this mode of determining the cerebral functions, these parts of the brain possess an equal claim with the cerebellum to be regarded as the regulators of motion. The fact is, that all parts of the nervous system are so intimately connected, that the infliction of injury on one deranges others; and hence this is not the way to determine the functions of any, even its least important parts. This is now admitted by all sound physiologists; among others by Sir Charles Bell.² Mr Solly (p. 57.) has described certain fibres which arise from the summit of the anterior or

¹ The nature of the subject prevents me from inserting the details of Dr Gall's section on this organ. I have translated it, however, and printed it uniformly with this work (*On the Functions of the Cerebellum*: MacLachlan and Co., Edinburgh; Longman and Co., London; 1838); and it may be obtained separately by medical students and others who wish to pursue the investigation. In the same volume I have translated the observations of Dr Vimont and Dr F. J. V. Broussais on the organ and propensity of Amativeness, and added a number of illustrative cases collected by myself, some of which are referred to in the text. With respect to the functions of the cerebellum, the reader may consult also *The Lancet* of 28th April and 15th September 1838; *The Medico-Chirurgical Review*, October 1838, p. 567; October 1840, pp. 533 and 562; April 1842, p. 280; and *The Phrenological Journal*, xiv. 94, 287-8; xv. 269, 378.

² See *The Phrenological Journal*, ix. 122.

motory column of the spinal marrow, and from the lower extremity of the *corpora pyramidalia*, also the motory tract, and proceed upwards and laterally, and enter the cerebellum. In cutting deeply into the cerebellum, these fibres would be irritated, and through them irritation would be communicated to the whole of the motory tract of the spinal marrow. It is not difficult, therefore, to account for the disturbance of motion which ensued from the experiments of Flourens and Magendie. Dr Gall has ably commented on these experiments, and shewn that they do not infringe on the functions assigned by him to the cerebellum.¹

The great size of the cerebellum, however,—the circumstance of its lateral portions not bearing the same relation to the middle part in all animals,²—and also the results of some late experiments,—have suggested the notion that it may not be a single organ, but that, although Amativeness is unquestionably connected with the largest portion of it, other functions may be connected with the other parts. This seems not improbable; and in the appendix, No. IV, I have stated the results of the most recent experiments and observations in support of this proposition.³

In Magendie's *Journal de Physiologie*, for June 1831, a case is reported, in which the cerebellum was found on dissection to be wanting, having apparently been destroyed by disease. Yet the patient enjoyed to the last the power of executing combined movements, and performed none of the evolutions described above as the result of Magendie's experiments.⁴

¹ See translation of Gall on the Cerebellum, p. 95.

² As to the cerebellum in the lower animals, see *The Phrenological Journal*, xiv. 185-7.

³ See *The Phrenological Journal*, vii. 440.

⁴ The case alluded to, that of a girl named Labrosse, who was addicted to amative abuse, is reported likewise in *Ferussac's Bulletin* for October 1831, and has been proclaimed by the enemies of Phrenology to be utterly subversive of the science. Dr Caldwell, however, has well shewn, in the *Annals of Phrenology*, vol. i. p. 76 (quoted in *The Phrenological Journal*, vol. ix. p. 226, and in my compilation *On the Functions of the Cerebellum*,

Mr Scott, in an excellent essay on the influence of this propensity on the higher sentiments and intellect,¹ observes, that it has been regarded by some individuals as almost synonymous with pollution, and the notion has been entertained that it cannot be even approached without defilement. This mistake has arisen from attention being directed too exclusively to the *abuses* of the propensity. Like every thing that forms part of the system of nature, it bears the stamp of wisdom and excellence in itself, although liable to abuse. It exerts a quiet but effectual influence in the general intercourse between the sexes, giving rise in each to a sort of kindly interest in all that concerns the other. This disposition to mutual kindness between the sexes does not arise from Benevolence or Adhesiveness, or any other sentiment or propensity, alone; because, if such were its exclusive sources, it would be equally displayed in the intercourse of the individuals of each sex among themselves, which it is not. "In this quiet and unobtrusive state of the feeling," says Mr Scott, "there is nothing in the least gross or offensive to the most sensitive delicacy. So far the contrary, that the want of some feeling of this sort is regarded, wherever it appears, as a very palpable defect, and a most unamiable trait in the character. It softens all the proud, irascible, and antisocial principles of our nature, in every thing which regards that sex which is the object of it; and it increases the activity and force of all the kindly and benevolent affections. This explains many facts which appear in the mutual regards of the sexes towards each other. Men are, generally speaking, more generous and kind, more benevolent and charitable, towards women, than they are to men, or than women are to

above mentioned, p. 171), that such a conclusion is altogether unwarranted. Although the cerebellum was found, on dissection, to be almost obliterated, the appearances were such as plainly to indicate that the obliteration was recent, and had been caused by inflammatory excitement of the organ—an excitement perfectly in harmony with the manifestations referred to.

¹ *Phrenological Journal*, ii. 332.

one another." This faculty also inspires the poet and dramatist in compositions on the passion of love ; and it exerts a very powerful influence over human conduct. Dr Spurzheim observes, that individuals in whom the organ is very large, ought not to be dedicated to the profession of religion, in countries where chastity for life is required of the clergy.

The organ is more prone to activity in warm than in cold climates. When very large, however, its function is powerfully manifested even in the frozen regions. The Greenlanders and other tribes of Esquimaux, for example, are remarkable for the strength of the feeling ; and their skulls, of which the Phrenological Society possesses twenty-one specimens, indicate a large development of the cerebellum.¹

The abuses of this propensity are the sources of innumerable evils in life ; and, as the organ and feeling exist, and produce an influence on the character, independently of external communication, Dr Spurzheim suggests the propriety of instructing young persons in the consequences of its improper indulgence, as preferable to keeping them in "a state of ignorance that may provoke a fatal curiosity, compromising in the end their own and their descendants' bodily and mental constitution."

The organ is regarded as established.

2. PHILOPROGENITIVENESS.

THE attachment of the inferior animals to their young has often been the subject of admiration. In them it is attributed to instinct. Instinct means an original propensity, impelling the animal endowed with it to act in a certain way, without intention or purpose. Is the attachment of human beings to their young the consequence of a similar innate feeling, or is it the result of reason, or a modification of be-

¹ See *Essay on the character and Cerebral Development of the Esquimaux*, by Mr Robert Cox ; *Phren. Journ.* viii. 296-7.

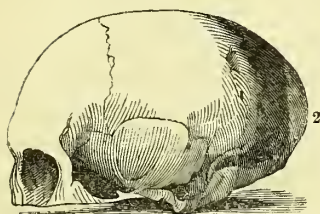
nevolence or of other feelings? That it does not spring from reflection is abundantly evident. Reason only investigates causes and effects, and decides on a comparison of facts. The mother while she smiles with ineffable joy on her tender offspring, does not argue herself into the delightful emotion. The excitement is instantaneous; the object requires only to be presented to her eye or imagination, and the glowing impulse of parental love arises in her mind. The affection appears not to be a modification of any other sentiment, but to spring from an original propensity; for, on going into society, we find that the love of children bears no perceptible proportion to any other faculty of the mind. If it depended on Benevolence, no selfish individual could be ardently attached to offspring; and yet the opposite is frequently the fact. If it were a modification of mere self-love, as some have supposed, then parental affection should be weak in proportion as generosity is strong; but this theory also is contradicted by experience. Neither do we find love of young bear a definite relation to intellectual endowment. Sometimes a woman of limited understanding loves her children ardently; occasionally another equally weak is indifferent about them. Some highly intellectual women add maternal affection to their other virtues; while others, not less acute in understanding, look on offspring as a burden. There are, therefore, the strongest reasons for holding the love of young to be a primitive tendency of the mind; and phrenological observations coincide with this conclusion.

The organ is situated immediately above the middle part of the cerebellum, and corresponds to the protuberance of the occiput.

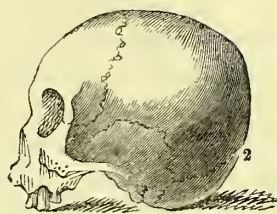
The following cuts represent the organ large and small.¹

¹ It is proper to bear in mind, that these and all other contrasts, are given in this work not so much to prove Phrenology to be true, as to represent the appearances of the organs in different degrees of development.

ROBERT BURNS.



PERUVIAN.



Dr Gall gives the following account of its discovery. In the course of his observations he had remarked, that, in the human race, the upper part of the occiput is in general more prominent in the female skull than in the male ; and he inferred, that the part of the brain beneath must be the organ of some feeling which is stronger in women than in men. But the question presented itself, What is this quality ? During several years, various conjectures occurred to him, which he successively adopted and rejected ; and he frequently stated to his pupils the embarrassment he felt on the subject. He remarked at last, that, in this particular point, the skulls of monkeys bore a singular resemblance to those of women,—and concluded, that the cerebral part placed immediately under the prominence, was probably the organ of some quality or faculty for which the monkey tribes and women were distinguished in a remarkable degree. He was led the more to entertain this idea, because, from the discoveries he had already made in this region, he was aware that there was no reason to look there for the seat of any superior intellectual or moral faculty. He repeatedly revolved in his mind all the feelings manifested by the monkey tribe, so far as known to him. At last in one of those favourable moments when a lucky thought sometimes does more to elicit truth than years of labour and reflection, it suddenly occurred to him, in the midst of a lecture, that one of the most remarkable characteristics of monkeys is an extreme ardour of affection for their young. This quality had been noticed in them by the most distinguished naturalists ;

Look ! how he laughs, and stretches out his arms,
And opens wide his blue eyes upon thine,
To hail his father ; while his little form,
Flutters as wing'd with joy. Talk not of pain !
The childless cherubs well might envy thee
The pleasures of a parent ! Bless him, Cain,
As yet he hath no words to thank thee, but
His heart will, and thine own too.

Cain, Act III. Scene I.

The organ may be verified in the easiest manner by any person who chooses to observe nature. It is one of the most conspicuous and easily distinguished in the head, particularly in the human species ; and the manifestations may be recognised with equal facility. Those who possess the feeling in a strong degree, shew it in every word and look when children are concerned ; and these, again, by a reciprocal tact, or, as it is expressed by the author of *Waverley*, by a kind of “ free-masonry,” discover at once persons with whom they may be familiar, and use all manner of freedoms. It is common, when such an individual appears among them, to see him welcomed with a shout of delight. Other individuals, again, feel the most marked indifference towards children, and are unable to conceal it when betrayed into their company. Romping disconcerts them, and, having no sympathy with children’s pranks and prattle, they look on them as the greatest annoyances. The same novelist justly remarks, that when such persons make advances to children for the purpose of recommending themselves to their parents, the awkwardness of their attempts is intuitively recognised by the children, and they fail in attracting reciprocal attention. On examining the heads of two persons thus differently constituted, a large development of this organ will be discovered in the one, which will not be found in the other.

It is a remarkable ordination of nature, that the direction of this feeling bears a reference to the weakness and helplessness of its objects, rather than to any other of their physical or moral qualities. The mother doats with fondest de-

light on her infant in the first months of its existence, when it presents fewest attractions to other individuals ; and her solicitude and affection are bestowed longest and most intensely on the feeblest member of her family. On this principle, the youngest is the reigning favourite, unless there be some sickly being of maturer age ; who then shares with it the maternal sympathies. A lady told me, that the very stupidity of her girl of four years of age strongly excited her affection, there being a want of common acuteness in the child. The primitive function of the faculty seems to be to inspire with an interest in the helplessness of childhood ; but it gives also a softness of manner in treating the feeble and the delicate even in advanced life ; and persons in whom this organ is large in combination with Benevolence are better fitted for the duties of a sick-chamber than those in whom Philoprogenitiveness is small. The natural language of the faculty is soft, tender, and endearing. It is essential to a successful teacher of children. Individuals in whom the organ is deficient, have little sympathy with the feelings of the youthful mind, and their tones and manner of communicating instruction repel, instead of engaging, the affections of the scholar. This is one cause why some persons, whose manner, in intercourse with their equals, is unexceptionable, are nevertheless greatly disliked as teachers ; and children are generally in the right in their antipathies, although their parents and guardians, judging by their own feelings, imagine them actuated altogether by caprice.

It has been remarked by Mr Scott, that the fondness which unmarried females, or married ladies who have no children, sometimes lavish “on animals, generally of the smaller and more delicate kind, whom they nurse and pamper with a degree of devotedness and affection which can be compared only to that of a mother for her children,” probably has its origin in this faculty. The feeling seems the same, its objects only being different ; and, instead of overwhelming such individuals with ridicule, they deserve our forbearance at least, if not respect, as “they are merely following the bent

of a strong natural propensity, implanted in them for the wisest purposes, and which, in more favourable circumstances, would have rendered them affectionate mothers, and excellent mistresses of families.”¹

This propensity furnishes the spirit of lullabies, and inspires the poet and dramatist in many of their representations. Wordsworth manifests it strongly, and some of the faults of his manner are clearly attributable to an excess of its influence. It characterizes the Lake school of poetry in general.

The feeling produced by this faculty is so intense and delightful, that none is more liable to abuse. When too energetic, and not regulated by judgment, it leads to pampering and spoiling children, to irrational anxieties regarding them, and sometimes to the most extravagant conceit of their supposed excellencies. When misapplied, it defeats the object of its institution ; for instead of conducing to the protection and happiness of the young, it renders them highly miserable. When the organ is deficient, indifference and regardlessness about offspring are the consequences. Children are then felt to be a heavy burden ; they are abandoned to the care of menials, or altogether neglected, and left to encounter the perils and distresses incident to tender age, without solace or protection. Instances have been known (such as the case of the Countess of Macclesfield, mother of the poet Savage), of mothers who conceived an unaccountable and seemingly causeless hatred against their own offspring, and who persecuted them with relentless severity. Dr Gall knew, at Vienna, a lady who loved her husband tenderly, and who managed the concerns of her household with intelligence and activity, but who sent from home, as soon as they saw the light, all the nine children to whom she successively gave birth, and for years never asked to see them. She was somewhat ashamed of this indifference, and could not account for it to herself. To quiet her conscience, she insisted upon her husband seeing them every day, and taking charge of

¹ *Phrenological Journal*, vol. ii. pp. 499, 500.

their education. From deficiency of the organ also, combined with other feelings in a strong degree, probably arises the cruelty of such barbarous mothers as Isabel of Bavaria, of whom history relates that she stifled all the sentiments of affection due to her children.

Among twenty-nine infanticides whose heads Drs Gall and Spurzheim had occasion to examine, the organ of Philoprogenitiveness was very feebly developed in twenty-five. Dr Gall has oftener than once made the remark, that it is not this defect in development alone which determines a mother to child-murder; but that individuals deficient in this respect yield sooner than others to those unfavourable circumstances which lead to the crime, because they are not endowed with that profound feeling which, in the heart of a good mother, will rise victorious over every such temptation.

In selecting a nurse or child's maid, the phrenologist will be directed by the development of this organ. This application of the science, when mentioned to those who have not studied the subject, generally excites a smile; and certainly, if the size of the part of the brain in question were no indication of instinctive affection for children, no test for qualification could be more justly deserving of ridicule than the one now recommended: but, on the other hand, if the organ be an unerring index of this disposition, (which it is, otherwise all we are now considering is a delusion), no weakness can be greater than that which would fear to appeal to it, because it might provoke a smile in those who are ignorant that nature has established the function.

The head of the male has generally a broader and rounder appearance, and that of the female a longer and narrower, when contrasted with each other.¹ This arises partly from the organ of Philoprogenitiveness being more developed in the female head, and causing the occiput to project. The portion of brain placed in the occiput is greater in women than in men, though the entire female brain is smaller than

¹ See Spurzheim's *Phrenology in Connexion with the Study of Physiognomy*, plate XII.

that of the male. This difference is observable in the foetal skull of the two sexes, and is conspicuous in boys and girls. The manifestations even in the earliest period of life correspond; for the girl shews attachment to dolls and infants, while the boy is addicted to romping and athletic sports. A curious practical example of the difference in this feeling between males and females in general, occurs in Morier's *Travels in Persia*. "The surgeons of the Embassy," says he, "endeavoured to introduce vaccination among the Persians, and their efforts at first were very successful; but on a sudden its progress was checked by the government itself. Several of the king's Ferashes were placed at the gate of the ambassador's hotel, nominally as a mark of attention to his Excellency, but really to stop all women from going to our surgeons. They said that if the people wanted their children to be vaccinated, the *fathers*, and not the *mothers*, were to take them to the surgeons, by which means the eagerness for vaccination was stopped; for we soon discovered that the *males* did not feel one-half the same anxiety for their offspring as the *women*."¹

There are, nevertheless, exceptions to this general rule. Sometimes the occipital part of the brain is little developed in a woman, and has acquired a very large size in a man. In such cases, the dispositions correspond with the development. Dr Gall conjectures, that, in these instances, the woman will be found to resemble her father, and the man his mother, unless this peculiar confirmation be hereditary in the family. There are men thus organized who have a particular affection for children, and in whom the organs of Amativeness and Adhesiveness are small,—who bear the loss of an affectionate wife with a resignation which appears very philosophic, while the death of an infant plunges them into a deep and lasting grief. The want of children is with such men a constant source of uneasiness, and often this circumstance causes them to treat with unkindness a partner exceedingly estimable in all other respects.

¹ *Second Journey through Persia*, p. 191.

Dr Gall observes, that we find this organ more developed in some nations than in others. It is generally large in Negroes ; and infanticide is a crime almost unknown among that variety of the human species. Persons well acquainted with their character assure us, that they never heard of such a crime committed by a black. The organ is commonly well developed even in male Negroes ; and we find that Negro men often consent to take charge of children.

Dr Murray Paterson states that the Hindoos, both male and female, are highly endowed with this feeling ;—it is manifested by them, he says, “in their predilection for domestic quiet ; in the happiness they seem to feel when surrounded by their children ; in the spirit of their lullabies ; and in their frequent and ardent embraces.”¹ Out of twelve Hindoo skulls originally in the possession of the Phrenological Society, eleven have this organ largely developed, and only one moderately so ; and many crania subsequently added shew the same configuration. In the skulls of the Ceylonese also, Philoprogenitiveness is equally great. In some of the older descriptions of Ceylon, the exposure of children is said to be common in the island ; but this is now ascertained to be at variance with truth. The feeling is manifested very strongly in both sexes.²

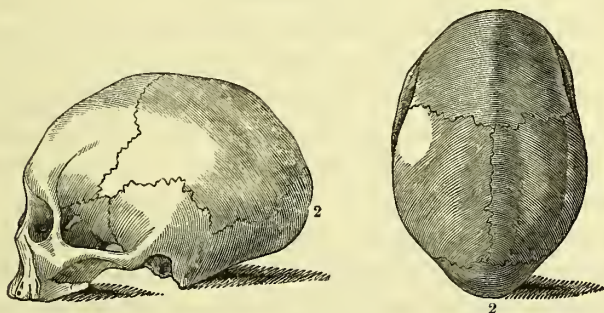
The feeling in question, so necessary for the preservation and continuance of the species, is found strong in the most savage and selfish tribes ; who, unless they possessed an instinctive propensity prompting them to take care of their children, would soon become extinct, without the intervention of famine, pestilence, or an exterminating enemy. A satisfactory answer is here afforded to those who object that there is no necessity for such a propensity as this, as the feeling of Benevolence alone would be sufficient to prompt parents to bestow the requisite care on their offspring. We have only to point to the Caribs, for example, and ask, what

¹ *Trans. of the Phren. Soc.*, p. 441. See also *The Phrenological Journal*, viii. 529.

² See *Phren. Journ.* vii. 639.

reliance could be placed on the benevolence of such beings? And yet they shew attachment to their young, and submit to the inconveniences of rearing them, amidst all the toils, privations, and hardships, that abound in savage life. Another illustration of the same fact is furnished by the Esquimaux, in most of whose skulls in the Phrenological Society's collection this organ is very prominently deve-

ESQUIMAUX.



loped. Blumenbach, I may add, remarks an “*occiput protuberans*” in an Esquimaux skull from Labrador, of which he gives a representation in his *Third Decade*, plate 24.¹ His next plate contains an engraving of another Esquimaux skull, in which the same feature is observable; and he notices the like conformation in the crania of two Greenlanders from the Danish colony of Godhavn, represented in his 36th and 37th plates. In accordance with this configuration, and in spite of the laziness and selfishness of the Esquimaux, their love of children is uncommonly powerful. “The affection of parents for their children,” says Captain Parry, “was frequently displayed by these people, not only in the mere passive indulgence and abstinence from corporal punishment, for which the Esquimaux have before been remarked, but by a thousand playful endearments also, such as parents and nurses practise in our own country. *Nothing, indeed, can*

¹ *J. F. Blumenbachii Decas Tertia Collectionis suæ Craniorum diversarum, Gentium Illustrata*. Gottingæ, 1795, p. 9.

well exceed the kindness with which they treat their children ; and this trait in their character deserves to be more insisted on, because it is in reality the only very amiable one which they possess." It is farther mentioned that "the custom of adoption is carried on to very great lengths among these people."¹ The testimony of Captain Lyon is equally strong : "Nothing," he says, "can be more delightful than the fondness which parents shew to their little ones during infancy. The mothers carry them naked on their backs until they are stout and able walkers, and their whole time and attention are occupied in nursing and feeding them. The fathers make little toys, play with, and are constantly giving them whatever assistance lies in their power. A child is never corrected or scolded, but has its own way in everything."² The same author relates, that when he sent a supply of food to a party of starved natives whose "hunger was quite voracious," "the grown people first supplied all the children, and afterwards divided the remainder in equal portions among themselves."³ Crantz describes the same trait in the inhabitants of the eastern coast of Greenland. "The Greenlanders," says he, "love their children excessively. The mothers suckle them wherever they go, and whatever they are about, in a conveniency made in their dress between their shoulders. They suckle them till they are three or four years old, and longer, because their country affords nothing to make proper food for a tender infant."⁴ And, in another place, this traveller, after mentioning that "you will scarce find a Greenland do good to another without the mercenary hope of some speedy retribution," informs us, that, "on the other hand, there are traces of a stronger love between parents and

¹ *Journals of Parry's First, Second, and Third Voyages.* 12mo. London, 1828, vol. v. p. 273, 277.

² *Private Journal.* London, 1824, p. 355-6.

³ *Ib.* p. 138.

⁴ *History of Greenland, translated from the High Dutch.* London, 1767, vol. i. p. 162. See also Egede's *Description of Greenland.* London, 1745, p. 146.

children, and of the many passions arising from it, than there are in other nations. A mother cannot suffer her child to be out of her sight, and many a mother has drowned herself because her child hath been drowned." The contrast between this ardour of parental affection and want of general benevolence, seems to have made a forcible impression on Crantz, and has led him to throw out a conjecture—the soundness of which is confirmed by Phrenology—that the phenomenon can be accounted for only by supposing the existence of two independent faculties: For he adds,—“ But just so it is with the irrational creatures; they are insensible to the pleasure or pain of other animals, but their love and concern for their young is so much the stronger. This would almost lead one to think, that the Greenlanders act more from the instinct and movements which the irrational animals have in common with mankind, than from human reason.”¹ Captain Ross found the same strong attachment to children among the Arctic Highlanders, at the northern extremity of Baffin’s Bay. He asked two of them whether they would allow one of their sons to go with him; to which, says he, “ they answered, they would not; nor could either of them be tempted with any presents to consent to part with a child.”

This, like the other cerebral organs, is liable to disease; and derangement in the manifestations of the propensity is the consequence. Sometimes the most painful anxiety is felt about children, without any adequate external cause; and this arises from involuntary activity of the organ.

Dr Andrew Combe attended a woman while labouring under a temporary alienation of mind, whose constant exclamations, during three days which the fit lasted, were about her children: she imagined that they were in distress, murdered, carried away, exposed to every calamity. On reco-

¹ *History of Greenland*, i. 189.

² Ross’s *Voyage*. London, 1819, p. 134. See essay On the Character and Cerebral Development of the Esquimaux, by Mr Robert Cox; *Phren. Journ.*, viii. 294–6.

very, she complained of having had a pain in the hind part of her head during the attack, pointing to the situation of Philoprogenitiveness; but she had no other recollection of what had passed. She was altogether unacquainted with Phrenology. In April 1836, I saw, in the Lunatic Asylum of Glasgow, a woman who was labouring under diseased excitement of this faculty. She believed that her children were miserable, that they were carried away, injured, or murdered; and, on approaching Mr Galbraith, the surgeon of the establishment, she gave expression to the most poignant maternal distress, begging to be liberated that she might go to their assistance. She threw her head backwards in the direction of this organ, and put into her voice such an intense expression of tenderness and anguish, that it was most painful to hear her supplications. In her this organ was very large, as was also the organ of Cautiousness, which seemed to be simultaneously affected.

Dr Gall mentions a case of a woman in the great hospital at Vienna, who was seized with a very peculiar kind of madness—maintaining that she was about to be delivered of six children. He was led, by his previous observations, to conjecture that this hallucination was owing partly to a great development, and partly to over-excitement, of the organ of Philoprogenitiveness. The patient died, and he mentions that the development of this organ in her head was quite extraordinary. The posterior lobes of the brain not only overhung the cerebellum more than is usual in females, but were rounded and voluminous in a very remarkable degree. At Paris, Dr Gall attended a young lady of perfect modesty, who laboured under mental disease. She lived in the best society, and went to Vienna accompanied by some most respectable friends. She had hardly arrived, when she ran to all her acquaintances, and announced to them, with the most lively joy, and in the openest manner, that she was pregnant. The circumstances of this declaration, and the known character of the lady, were sufficient to lead her friends to conclude her to be insane. In a short time

her joy gave place to anguish of mind, and to a mournful and invincible taciturnity. Soon afterwards she died of consumption. In her, also, this organ was extremely developed; and during her life she had been remarkable for her love of children. In the Lunatic Hospital at Amsterdam, Drs Gall and Spurzheim saw a female patient, who spoke of nothing but of being with child, though no such thing was the case. Her head was small, and the organ of Philoprogenitiveness alone was very largely developed. In another hospital for lunatics, they saw a man who maintained that he was with child of twins. They announced that he ought to have this organ large, and, on examining his head, found it to be so. These cases of the diseased state of the organ add to the already numerous proofs that this is an original and special propensity.

Mr Martin Kirtley of Barnard Castle has recorded, in *The Phrenological Journal*, vol. x. p. 426, the case of a lady who, from being unusually indifferent to her children, became extremely fond of them, and in whose head the organ of Philoprogenitiveness exhibited, at the same time, a remarkable increase of size. In vol. xi. p. 292, and vol. xii. p. 65, are published two cases of women who suddenly had acute pain in the situation of the organ, on witnessing accidents which befel their children. Additional illustrations of the organ may be seen in vol. xiv. pp. 24, 59, 73, 323.

Dr Gall states, that he examined, with all the attention in his power, the skulls of birds, from the smallest up to the greatest, and of mammiferous animals from the shrew-mouse to the elephant, and found throughout, that, in the females, the cerebral part which corresponds to the organ of Philoprogenitiveness in the human species, is more developed than in the males. He says, that if there had been presented to him, in water, the fresh brains of two adult animals of any species, one male and the other female, he could have distinguished the sexes. In the male, the cerebellum is larger, and the posterior lobes of the brain are smaller. In the female, on the contrary, the cerebellum is smaller, and

the posterior lobes, which include the convolutions connected with this faculty, are larger and longer. When these two organs are distinctly marked on the cranium, the two sexes may be distinguished by the simple inspection of the skull. In those species where the sexes differ very much in their regard for their young, the crania differ sometimes so much in their form, that they have been placed in collections as belonging to different varieties of the same species, though in fact they belonged to individuals of the same variety, but of different sexes.

Dr Gall adduces innumerable facts in support of this proposition; but as these can hardly be made intelligible without the assistance of plates, I must refer those who wish to pursue this inquiry to his work, to that of Dr Vimont,¹ and to observations in nature. In pursuing it, the utmost patience and attention are necessary in order to avoid mistakes. The differences will be found uniformly greatest in those species of which the males pay no regard to their young; but it requires a practised eye and great attention to discern the difference in classes of which both the male and female bestow care on their offspring. The organ is largely developed in birds, with the exception of the cuckoo, which does not hatch its own eggs. Dr Vimont says, that the organ is larger in those birds in whose case incubation is long, than in those in whose habits it is short. There is, however, a marked difference even in females of the same species. Every cottager knows, and can distinguish in her poultry-yard, particular female fowls, ducks, geese, and turkeys, which cover their eggs and bring up their young ones with the greatest care, while there are others which spoil their nests, and neglect or abandon their young. On comparing the heads of the animals which shew these opposite qualities, a decided difference will be found at the organ of Philoprogenitiveness. Those, therefore, who wish to form collections with this view, should know not only the natural history of the species, but the peculiar disposition of the individuals selected. Dr Vimont disputes the accuracy of some of Dr

Gall's observations on the seat of the organ in some of the lower animals.¹

With regard to the name of this faculty, Dr Spurzheim observes: "As the English language possesses no single word that indicates love of offspring, I have employed two Greek roots, which, in conjunction, define accurately the primitive propensity. The title that results is long; but I could not say Philogenitiveness, because that would indicate the love of producing offspring. As, however, progeny, is synonymous with offspring, and philoprogeny means love of offspring, I adopt the term *Philoprogenitiveness* for the faculty producing the love of offspring." Even this term, however, seems liable to objection; inasmuch as it represents the faculty as bearing relation exclusively to the offspring of its individual possessor, and this whether they be young or adult. Now, although it is highly probable that the feeling acts in parents toward their *grown* children; yet, on the other hand, there cannot be a doubt that children in general, though not the person's own, are objects in which it takes an interest. *Love of young*, therefore, seems a more appropriate designation than *Love of offspring*. It is difficult to coin an English term to express the former idea; but the German word *Jungenliebe*, employed by Dr Gall, seems unexceptionable.

It has often been asked, Why has Nature given us a special organ for the love of children, and none for the love of parents, brothers, and other relations? In answer I observe, that it is not so much with the *motives* of Nature that the phrenologist is concerned, as with *what she has done*; and that I am quite ready to admit the existence of *special* organs for filial affection, fraternal affection, and the like, whenever the existence of such shall be demonstrated. At present I do not perceive that although, for the preservation of the spe-

¹ See observations by Mr H. C. Watson on the Excitement of Philo progenitiveness in a cat; *Phren. Jour.* x. 283, 725.

cies, a special faculty for the love of young has been conferred, there is the same necessity for any other source of filial affection, for example, than the general faculty of Adhesiveness, along with Veneration and Benevolence. The inferior intensity of filial as compared with parental affection, is universally admitted. "Love," says Bishop Taylor, "descends more strongly than it ascends, and commonly falls from the parent upon the children in cataracts, and returns back again up to the parents but in small dewes."¹ And Mr Roscoe observes, that, "however the Author of Nature may have instilled affection into the breast of a parent as the means of preserving the race from destruction, we must allow that the corresponding sentiment in the mind of the offspring is merely the effect of a long-continued course of care, partiality, and tenderness."²

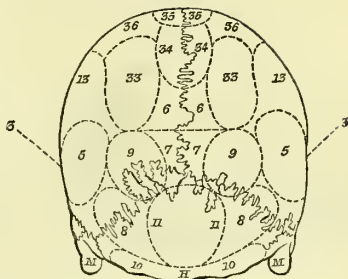
Almost all metaphysical writers admit the love of young as an instinctive propensity of the human mind. Phrenological observation has discovered the organ, and the effects of its different degrees of development, and also of its healthy and diseased states, on the manifestations of the feeling; and to this extent adds to the stock of general knowledge.

Dr Vimont considers that two organs are included within the space assigned by Dr Gall to the organ of Philoprogenitiveness. He says, "The more I have studied the conduct of men and the habits of many species of animals, the more satisfied have I remained that the feeling which leads to attachment to one companion for life, is the result of a fundamental faculty. Some observations which I have made on the human species, and many more which I have collected amongst animals, have enabled me to fix the situation of the organ in man and animals. Before pointing out upon the brain and skull the place where it is to be found, I must enter into some anatomical details.

¹ *Life of Christ.*

² Roscoe's *Life*, by his Son, i. 94.

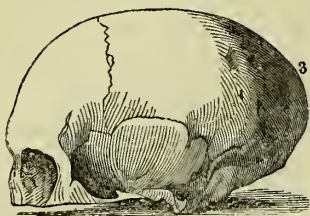
“The region of Philoprogenitiveness (*de l'attachement pour les petits*) as laid down in the works or on the bust, which phrenologists have in their hands, occupies too extended a space, and comprehends two distinct portions of the brain, the one placed at the middle part (No. 11, Pl. LXXXVIII. Fig. 2), the other (No. 8.) more laterally and outwards. The first appears to me to be the seat of the organ of Philoprogenitiveness, the other that of attachment for life or marriage. I have already found this latter region well developed in two persons who had very early manifested the desire of being united to each other, and without being induced to do so by other motives than such as lead to four-fifths of marriages. I have found on the other hand the same region but little developed in persons who had naturally a repugnance for marriage. As a few observations will not suffice to establish a certainty, I would entreat phrenologists who have opportunities of making numerous observations to ascertain if new and carefully noted facts might be found to confirm my remarks.” I have not been able to verify the correctness of Dr Vimont's observations on this subject.



3.—CONCENTRATIVENESS.

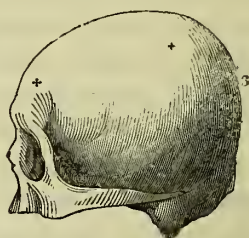
THIS organ is situated immediately above Philoprogenitiveness, and below Self-Esteem.

ROBERT BURNS.



3. Concentrativeness, large.

N. AMERICAN INDIAN.



3. Concentrativeness, small.

A bony excrescence of the suture sometimes presents itself at this part, which may be mistaken for the organ of concentrativeness; but the former is much narrower and more pointed than the elevation caused by the latter when it is large. A cerebral convolution in each hemisphere runs along the top of the corpus callosum, from the organs of Concentrativeness and Self-Esteem to the intellectual organs in the frontal lobe. It is in connexion with several other organs of the propensities and sentiments; but it appears to me that the posterior end is in Concentrativeness and Self-Esteem, and the anterior end in the anterior lobe.¹

Observation proves that this is a distinct organ, because it is sometimes found large when the organs of Philoprogenitiveness and Self-Esteem lying below and above it are small, and sometimes small when these are large. Dr Gall did not discover its function. Dr Spurzheim observed it to be large in those animals and persons who seemed attached to particular places. "I consider," says he, "in animals, the cerebral part immediately above the organ of Philoprogenitiveness, as the organ of the instinct that prompts them to select a peculiar dwelling, and call it the organ of Inhabitiveness. It is known that cats are more attached to places,

¹ Several years subsequently to the publication of the remarks in the text, Mr Solly demonstrated in a prepared brain, that these convolutions contain bands of longitudinal fibres, connecting the anterior, posterior, and middle lobes of the brain. See also Friderici Arnoldi *Tabulæ Anatomicæ*, Fasciculus I, Tabula X.

and dogs to persons. The former remain in the house which is sold, while the latter follows his master. My attention has been and is still directed to such individuals of the human kind as shew a particular disposition in regard to their dwelling-place. I have many facts in confirmation. I saw a clergyman in Manchester, known to his friends as particularly attached to his dwelling-place, so that he should be unhappy if obliged to sleep elsewhere. I examined his head in company of several gentlemen, some of whom were opponents, but every one was obliged to admit, that the spot of the head where No. 3. is situated was warmer than the rest of the head. I merely asked what part was the warmest, and all agreed at the same place. Some nations are extremely attached to their country, while others are readily induced to migrate. Some tribes of the American Indians and Tartars wander about without fixed habitations, while other savages have a settled home. Mountaineers are commonly much attached to their native soil, and those of them who visit capitals or foreign countries, seem chiefly led by the hope of gaining money enough to return home and buy a little property, even though the land should be dearer there than elsewhere. I therefore invite the phrenologists who have an opportunity of visiting various nations particularly fond of their country, to examine the development of the organ marked No. 3., and situated immediately above Philoprogenitiveness.—Some persons think that inhabitiveness may give the delight to see foreign countries, and to travel, but it is quite the reverse; the former delight depends on Locality. Those who have Inhabitiveness large, and Locality small, do not like to leave home; those who have both organs large, like to travel, but to return home and to settle at last.—In all civilized nations, some individuals have a great predilection for residing in the country. If professional pursuits oblige them to live in town, their endeavour is to collect a fortune as speedily as possible, that they may indulge their leading propensity. I have examined the heads of several individuals of this description, and found the parts

in question much developed.”¹ The function, however, is stated by Dr Spurzheim as not fully settled. From a number of observations, the faculty appears to me to have a more extensive sphere of action than that which he is disposed to assign to it.

Some persons can detain their feelings and ideas in their minds, giving them the quality of continuity; while others cannot do this: the minds of the latter may be compared to the surface of a mirror, on which each feeling and thought appears like the shadow of a moving object, making a momentary impression, and passing away. They experience great difficulty in detaining their emotions and ideas, so as to examine and compare them; and, in consequence, are little capable of taking systematic views of any subject, and of concentrating their powers to bear on one point. I have observed this organ to be large in the former and small in the latter.

It is difficult to describe in words the manner of a man's mind; but the difference in manifestation is so great between those in whom this organ is small, and those in whom it is large, that, if once comprehended, it will always be recognised. In conversing with some individuals, we find them fall naturally into a connected train of thinking; either dwelling on a subject which interests them, till they have placed it clearly before the mind, or passing naturally and gracefully to a connected topic. Such persons uniformly have this organ large.² We meet with others, who, in simi-

¹ *Phrenology*, last edition (Boston, U. S. 1832), p. 167.

² The author of *Spain Revisited in 1834*, says, “I never was more struck with the universality of the conversational talent among the Spaniards. They never interrupt each other, in the ill-bred manner common among people of some pretensions elsewhere; nor do they change the subject suddenly and abruptly, without any other cause than may be found in the intellectual caprices of the parties. One subject passes with them gently into another; and their remarks are characterized by reason and good sense, and their arguments often illustrated by stories at once apt and interesting, and enforced by sententious and unanswerable

lar circumstances, never pursue one idea for two consecutive seconds, but shift from topic to topic without regard to natural connexion, and leave no distinct impression on the mind of the listener: this happens even with individuals in whom reflection is not deficient; but the organ in question is in such persons uniformly small. I have met a military officer, with Locality and Concentrativeness both large, who declared that he liked the stirring and diffuse life of a soldier, while engaged in active operations; but that when the army halted he was equally pleased, and found equal facility in concentrating his mind to reading, writing, or business, and was not annoyed by that dissipation of intellect of which many of his brother-officers complained. On the other hand, a gentleman bred to the profession of the law, who has this organ rather deficient, declares that the effort of concentrated thinking is to him painful, though he has excellent Comparison, Causality, and Language.

The question occurs, What is the primitive feeling which gives rise to these phenomena? The first idea that led me to the conclusion, that it is the tendency to concentrate the mind within itself, and to direct its powers in a combined effort to one object, was suggested by a lady, who had remarked this quality in individuals in whom the organ was large. The Reverend Dr Welsh, and Dr Hoppe of Copenhagen, having been informed of this view, unknown to each other communicated to me the inference, that the faculty gives a tendency to dwell in a place, or on feelings and ideas, for a length of time, till all, or the majority, of the other faculties are satisfied in regard to them. Both of these phrenologists acquiesce in the manifestations being such as I have described them, when the organ is large or small. I regard the function of the faculty to be to give continuity to impressions, be they feelings or ideas. The power of giving conti-

“proverbs,” vol. i. p. 93. Bentley, London, 1836. This indicates, among other endowments, a large organ of concentrativeness in the Spanish head. I have not, however, enjoyed the means of ascertaining the state of the development of the organ in this people.

nuity to emotion and intellectual conception was a striking feature in the minds of the late Mr John Kemble and Mrs Siddons. During long and solemn pauses in their declamation, their audience saw the mental state prolonged over the whole interval, which added to the depth and the intensity of the effect produced. The organ in question seems to me to form one indispensable element in this mental character. I am unable to give any more specific definition of the function, and admit that the determination of it is attended with great difficulty. An excellent letter on the subject appeared in *The Phrenological Journal*, vol. iii. p. 193, from the pen of an anonymous author, which contains many valuable remarks on the ultimate principle of the faculty, and I avail myself of it with pleasure. The following are extracts.

“ ‘ If we consider the human mind,’ says Mr Hume in his Dissertation on the Passions, ‘ we shall observe that, with regard to the passions, it is not like a wind-instrument of music, which, in running over all the notes, immediately loses the sound when the breath ceases ; but rather resembles a string-instrument, where, after each stroke, the vibrations still retain some sound, which gradually and insensibly decays.’ From this he infers, that when an object which occasions a variety of emotions is presented to the mind, each impulse will not produce a clear and distinct note of passion, but the one passion will always be mixed and confounded with the other. In his observations on the laws of the suggesting principle, Dr Thomas Brown remarks the same fact of permanence or co-existence, as taking place in our mental conceptions in general, when associated with the interest of any mental emotion. ‘ I look at a volume on my table,’ says he ; ‘ it recalls to me the friend from whom I received it,—the remembrance of him suggests to me the conception of his family,—of an evening which I spent with them,—and of various subjects of our conversation. Yet the conception of my friend may continue, mingled indeed with various conceptions, as they rise successively, but still co-existing

with them.’¹ Dr Brown proceeds, with the felicity and ingenuity which so generally distinguish his writings, to explain how this co-existence of ideas gives us the capacity of prosecuting with steadiness a mental design or plan of thought. His words cannot be abridged without doing injustice to his meaning. ‘When we sit down,’ he says, ‘to study a particular subject, we must have a certain conception, though probably a dim and shadowy one, of the subject itself. To study it, however, is not to have that conception alone, but to have successively various conceptions, its relations to which we endeavour to trace. The conception of our particular subject, must, in the very first stage of our progress, suggest some other conception. But this second suggestion, if it alone were present, having various relations of its own, as well as its relation to the subject which suggested it, would probably excite a third conception, which had no reference to the original subject,—and this third a fourth; and thus a whole series, all equally unrelated to the subject which we wish to study. It would hence seem impossible to think of the same subject even for a single minute. Yet we know that the fact is very different, and that we often occupy whole hours in this manner, without any remarkable deviation from our original design. Innumerable conceptions, indeed, arise during this time, but all more or less intimately related to the subject, by the continued conception of which they have every appearance of being suggested; and if it be allowed that the conception of a particular subject both suggests trains of conceptions, and continues to exist together with the conceptions which it has suggested, every thing for which I contend in the present case is implied in the admission.’

“I apprehend,” says the writer in the *Journal*, “that this principle suggests the true metaphysical theory. If we conceive that the simple function of this faculty is to give duration or fixity to whatever conceptions or emotions oc-

¹ *Lectures*, vol. ii. p. 303.

cupy the mind, the various operations ascribed to Concentrativeness will flow from that function as from an elementary principle. In Mr Combe's work lately published,¹ the 'primitive feeling,' which gives rise to the phenomena of Concentrativeness, is said to be, 'the tendency to concentrate the mind within itself, and to direct its powers in a combined effort to one object.' This, however, may be considered rather as a description of the operation of the power, than a statement of the primary element to which its phenomena may be traced. If we attend to what passes in our minds when we endeavour to concentrate our thoughts upon a subject, we shall find that we do not attempt any direct coercion on our different faculties, but simply endeavour to seize upon the object of thought, and keep it steadily before the mind. We are all occasionally conscious of ineffectual efforts of attention; if we examine what we do on such occasions, we shall find that it consists in an attempt to think of some subject which is, for the moment, less attractive than some other objects which are the causes of distraction. An effective concentration of the faculties takes place only when the original leading conceptions are of themselves powerful and permanent; and the concentration will be found, consequently, to be most perfect when there is least effort to produce it. We are sensible of this on occasions which may be either painful or pleasant; when a subject, associated with strong emotion, has taken possession of the mind: and when we find ourselves incapable of banishing from our thoughts, even though very desirous of doing so, the train of conceptions which has so strongly concentrated our powers upon itself, and continues to keep them in a state of sustained and perhaps distressing activity. We speak of our minds having the command of our ideas. This may be correct enough in popular language; but, philosophically speaking, our ideas command our minds. And even in those cases which appear most like exceptions to this principle, it will be found, on

¹ *System of Phrenology*, 1825.

examination, that it is merely one class of ideas assuming the predominance over another. When we voluntarily change our train of thought, or endeavour to concentrate our minds upon a subject, the process is one in which, under an impression of the necessity or expediency of attaining to the particular subject, we pass from the train of irrelevant ideas, and endeavour to reach, by the aid of our associations, the subject which we wish to study. Almost every individual is capable of this single effort, and he may repeat it again. But that uninterrupted sustaining of the attention so given, which constitutes Concentrativeness, depends on a quality distinct from efforts of attention,—a quality most strongly marked where least effort is necessary,—and that is simply the property which this mental power possesses of giving continuance to thoughts and feelings when they have sprung up in the mind. This property appears to exist in different degrees in different minds ; to which, of course, the diversity in the manifestations of Concentrativeness, with which we are so often presented, is to be mainly attributed.

“ It is not difficult to see in what way this property of permanence operates in producing the various peculiarities of a concentrative turn of mind. It is a law of thought which all systems of mental philosophy recognise, although they may explain it differently, that a conception or feeling, when present to the mind, naturally acts in calling up other conceptions and feelings of the same class. Ideas of Causality call forth other ideas of Causality ; emotions of Benevolence or Destructiveness are followed by trains of conceptions associated by sympathy with the previous mental state. If, then, one predominating conception or feeling be held before the mind by the force of a strong Concentrativeness, the mental action just described will of necessity be greatly enhanced. The secondary conceptions will re-act upon the original, increasing the intensity of thought and feeling, and adding to the excitement of the mind. A more extensive range of ideas, all bearing the same kindred character, will thus be brought into view ; and, while the intellect, seizing

from a distance the point to be pursued, arranges its materials on such a plan as is best adapted to attain it, it is at the same time prepared for executing the design with greater strength of conception, or, as the nature of the subject may require, with a tone of more powerful emotion. The effect of this concentration naturally extends to the active powers in cases where their co-operation is necessary; the associated volitions flow more readily along with the mental train, and participate in the harmony of all the other faculties.

“ In perfect consistency with this view, we find that any circumstance which gives permanence to an emotion independently of Concentrativeness, produces the same effect. The continued presence of a cause of provocation will excite Destructiveness to a greater excess of passion. Large Cautiousness, along with deficient Hope, will give a permanent tinge to all the mental feelings; and, when excited by disease, may so completely fill the mind with their gloomy suggestions, as to render it inaccessible to every idea of a brighter complexion. Every sentiment, whatever its character may be, casts its own peculiar light over the mental prospects; and the objects beheld reflect that light alone to the mind, whether it be the splendour of our more bright and joyous feelings, or the fiercer glow of the destructive passions, or the sombre illumination of a more melancholy mood.

“ It occurs to me that the amount of this power, in the composition of intellectual character, has not been fully estimated by phrenologists. Independently of Phrenology altogether, the varieties of mental constitution cannot, I think, be satisfactorily accounted for, but by supposing that Concentrativeness is an original element of mind, varying in force in different individuals. In connecting this power with the cerebral organ, phrenologists have proceeded upon experience; and so far as my limited observation has gone, I have been gratified by the remarkable coincidences which it has presented between fact and this part of the system. The following remarks have been suggested by observation, and

are not merely speculative ; but, at the same time, they are submitted to be set aside or confirmed as to their phrenological accuracy by the more extensive observations of our veteran phrenologists.

“ What is the result of extreme defect in this organ I have had no opportunity of knowing. Deficiency, in the more ordinary degrees, discovers itself in different ways, according to its combination with other faculties. In some individuals it produces an indisposition to settle into any regular plan of life ; or, if this has been controlled by circumstances and other faculties, there may still be seen a want of method, forethought, and continuity, in the various concerns of intercourse or business. The individual does not appear like one driving constantly towards a particular object ; his mind takes its direction from shifting circumstances ; and, if other faculties conspire, he may be characterized by a sort of careless facility or vivacity of disposition. Should these appearances be restrained by large Cautiousness and Firmness, while the reflecting organs at the same time are full, the manifestations of the deficiency will be considerably different. There may be a propensity to reason, and possibly to deal in abstract speculation ; while the individual will exhibit, in his attempts at argument, a degree of cloudiness and ambiguity of conception, which evidently results from an incapacity of holding up distinctly before his mental vision the subject of thought.

“ We occasionally find persons with large reflecting organs, whom we are surprised to observe little given to sustained reasoning or philosophical speculation. The writer has noticed some such, with Causality and Wit both large, while he has had reason either to know or to suspect, that the organ of Concentrativeness was considerably deficient. The intellectual perceptions of such appeared to be strong and rapid, and possessed the momentary brilliancy imparted by Ideality, or the energy derived from a large Combative-ness. But the mental action was never sustained ; the energy ceased when its impression had just been felt by the auditor ;

and the decisions of Causality and Wit were never prolonged into a train of connected argument. They came to their conclusions by judgments, and not by ratiocination. Whatever could be seen at a glance or two, they perceived, and often with much perspicacity and originality ; but they failed in every thing requiring the investigation of abstract principles or logical deduction. They excelled in whatever admitted of succession and variety of remark, but were unsuccessful where a single point was to be kept in view, and carried by argument. They were better orators than writers, and more powerful still in conversation than in prolonged oratory. It might be that they argued well in conversational controversy ; but this was because the successive replies of the debate broke the reasoning into steps, if I may say so, and always presented a new point for immediate judgment.—All this appears to be the natural consequence of a deficient Concentrativeness. We must observe, however, that such a mind, when its faculties are under the influence of strong excitement, may exhibit a degree of unity and sustainedness of thought beyond what is usual to it at other moments ;—but this would prove nothing against an actual deficiency in Concentrativeness. All possess the quality in some degree, and, of course, on occasions of greater excitement, its power will be augmented. And still it may be said, that if great Concentrativeness were placed in the same circumstances, its manifestations would be still more remarkable.

“ Full or large Concentrativeness gives rise to other descriptions of intellectual character. We may occasionally observe a class of persons, who, with the intellectual organs rather poorly developed, are notwithstanding great dabblers in argument. They are a species of Lilliputian gladiators, who are perpetually skirmishing and hair-splitting with all about them in behalf of certain favourite opinions, to the merits of which few, alas ! are sensible but themselves. This is the extreme case, but various modifications of it will be found. The probability is, that in all such the organ of Concentrativeness is full ; it may be seen, indeed, in the natural

language of their looks and gestures ; along with this, Causality will be discovered to be relatively the largest of their intellectual organs, although absolutely small. Their reasonings are distinguished by two qualities. The first of these is a deficiency of strength and breadth in the conceptions which compose them ; so that their track is something like the lines of navigators' courses in the charts, remarkable for nothing but its continuousness. The second is, that they take no comprehensive survey of the general principles which bear upon a question ; but having the power of seeing and dissecting that which is immediately before them, they work onward by the help of certain little formulæ, now right, and now wrong, till they strike upon some palpable absurdity, some contradiction to more general principles or more extensive analogies. When such individuals are compared with persons of the former class, who have large Causality, and yet do not reason, an apparent contradiction is presented to the phrenological account of Causality, as a faculty which disposes to metaphysics, and ' gives the perception of logical consequences in argument.' The contradiction vanishes when we connect two powers together as necessary to reasoning. The Causality of every one whose mind is sound, is capable of perceiving the relation between a cause and its effect, or between simple premises and a conclusion. If Concentrativeness be added, which gives the power of keeping the subject of thought steadily before the mind, there will be a capacity for pursuing such a connected series of judgments as constitutes reasoning. In mathematical reasoning, where every term has a definite extension, the above power will be sufficient for forming sound conclusions. But, in the investigation of moral subjects, there is required a comprehensive conception of the various relations of each term or principle employed in our deductions ; and this appears to be the property of a large Causality in conjunction with the knowing organs ;—the former giving a powerful memory for relations previously discovered, and the latter supplying the materials on which the decisions of Causality are founded. In both of

these, such reasoners as we speak of are deficient ; and hence their speculations want the elements both of strength and comprehensiveness of thought.

“ When full Concentrativeness is joined to large Causality and Individuality, the power of philosophy and reasoning appears in its greatest perfection. The mind is at once possessed of large intellectual resources, and is capable of making the most of them by its power of collecting its conceptions into a strong mental picture, and conveying them with the full force of a sustained representation to the minds of others. The effects of a large Causality are just the reverse of those we attributed to a small. The intellectual picture is enlarged in its dimensions, is more completely filled up with related conceptions, and has its lines more strongly drawn ; and, along with this, there is a more comprehensive view of the multiplied connexions which the subject of thought has with other remoter truths.”¹

The styles of Tacitus and Grattan appear to me highly characterized by Concentrativeness, while that of Dugald Stewart is so only in a moderate degree. The quality is much more conspicuous in the poetry of Thomas Campbell and Crabbe than in that of Sir Walter Scott. The organ was not large in the head of Scott. It seems to have been recognised by the late Dr Thomas Brown, who names it a “ comprehensive energy,” and it abounds in his own writings.

It has been objected, that concentration of style is, in many instances, the result of labour and condensation ; and in this I agree ; but before an author will bestow pains in communicating this quality to his compositions, he must have a relish for it himself ; and this, according to my notion, is inspired by the organ in question. The object of his exertions is to bring his style up to a state which pleases his own faculties ; and if the organ be small, he will not find pleasure in concentration either of feeling or of thought, and be incapable of producing it.

¹ *Phren. Journ.* iii. 193. On the subject of Concentrativeness, see also i. 245 ; v. 225 ; viii. 61, 226, 400, 440, 564.

It has been said, that Individuality and Eventuality, when large, produce the effects here attributed to Concentrativeness ; but I am acquainted with a literary gentleman in whom these organs are large, and Concentrativeness deficient, and who manifests great knowledge of facts and details, combined with deficiency in the power of keeping them continuously before his own mind, so as to discover their relative bearings and applications. On the other hand, I am acquainted with a philosophical author, who possesses large Concentrativeness with deficient Eventuality ; and who complains of experiencing great difficulty in acquiring knowledge of details, who requires to write down instantly the results of his reading and observations, and whose knowledge exists in his portfolio more than in his brain—but who, as an author, in reproducing his knowledge, labours incessantly till he has discovered the natural relations of its parts, and gives it forth in the most concentrated and systematic form. When Comparison and Causality are large in combination with large Concentrativeness, there is a tendency to systematize knowledge : when the latter is deficient this does not so much exist ; and I regard one element in a systematic mind to be the power of giving continuousness to feelings and ideas, thereby enabling the intellect to contemplate the relations subsisting among them.

According to this account of the faculty, an individual may have great liking for a particular pursuit—Botany, for example, or Phrenology—if he possess the combination of faculties which takes pleasure in it ; and he may pursue it with ardour, and nevertheless be deficient in Concentrativeness. I know such persons, but all of them make efforts, collect knowledge, or communicate ideas, without taking a comprehensive and concentrated view of the objects and relations about which they treat.

Dr Spurzheim, however, objects to my ideas, and states that his experience is in contradiction to them. Facts alone must determine between us. At the same time, there appears to be nothing in the notions of Dr Spurzheim concerning

Inhabitiveness, inconsistent with the more extensive views now taken of the nature of this faculty.

It has been objected by him, that "Concentrativeness cannot possibly be a primitive faculty, since it can neither act alone, nor appear diseased singly; and since its very existence only becomes apparent by the presence of other powers directed to one object." There are various faculties which very seldom act alone: thus, Firmness usually acts along with other powers—we persevere in passion, in love, in hate, in ambition, or in study; but cannot well persevere in mere abstract perseverance: Cautiousness causes us to fear; but we generally fear something, which depends on other faculties and rarely experience abstract fear itself. Concentrativeness, therefore, is not singular in not acting alone. I have no doubt of the *possibility* of its acting by itself, although, from the rareness of its doing so, and the obscurity in which the ultimate function is involved, I cannot specify the effect which it then produces.

As to disease of Concentrativeness, this organ appears to suffer in those lunatics whose attention is immoveably fixed on some internal impression, and who remain absorbed in silent and profound meditation, insensible alike to the threats and caresses of those around them, and to the effects of external objects. They differ from ordinary monomaniacs in this, that the latter, with certain unsound feelings or intellectual perceptions, or with unsound associations on the presentment of certain external objects, can still direct their attention to other feelings or ideas, and concerning them can hold rational conversation. The state now attributed to diseased Concentrativeness, must be distinguished also from one for which it has been sometimes mistaken, namely, *dementia*, approaching to idiocy, in which a fixed look and silent calmness appear, not from internal meditation, but from utter insensibility to stimuli. In disease of Concentrativeness, the patient possesses intense consciousness, and when cured, is able to give an account of all that passed in his mind during the malady; in *dementia*, the period of the disease forms a

blank in existence, the individual recollecting nothing that occurred in it. Dr A. Combe, to whom I owe these observations, states, that he has heard Esquirol, in his lectures at the Salpêtrière, speak of cases such as those now described ; and he himself has seen examples which proved the accuracy of his account of them, although, owing to the function not having been discovered at the time, he did not observe the condition of this particular organ. I am acquainted with a gentleman in whom the organ is large, and who, while labouring under a nervous affection, in which Cautiousness and Conscientiousness were diseased, experienced a feeling as if the power of concentrating his mind were about to leave him, and who used vigorous efforts to preserve it. He directed his attention to an object, frequently a spire at the end of a long street, and resolutely maintained it immoveably fixed there for a considerable length of time, excluding all other ideas from his mind. The consequence was, that in his then weak state, a diseased fixity of mind ensued, in which feelings and ideas stood as it were bound up and immoveable, and thereafter a state in which every impression and emotion was fleeting and fickle like images in water. He was then unacquainted with Phrenology, but knows it now, and expresses his belief that the circumstances detailed were probably referable to a diseased affection of the organ in question.

Dr Spurzheim objects farther, that "no one, in concentrating his mind, and directing his powers to one object, exhibits gestures and emotions indicating activity in the back part of the head ; the whole of the natural language shews, that concentration takes place in the forehead." With the greatest deference to Dr Spurzheim's superior skill and accuracy, I take the liberty of stating, that, so far as my own observation goes, those persons who really possess the power of concentration, while preparing to make a powerful and combined exertion of all their powers, naturally draw the head and body backwards in the line of this organ. The author of *Waverley* describes this as the attitude of concentrated internal thinking. Preachers and advocates in whom

it is large, while speaking with animation, move the head in the line of Concentrativeness and Individuality, or straight backwards and straight forwards. When Combativeness predominates over Concentrativeness in a pleader, he draws his head backwards and to the side, in the line of Combativeness, and advances it in a corresponding direction.

“The organ,” continues Dr Spurzheim, “is also commonly larger in women than in men, and I leave every one to decide upon the sex which supports the more close and vigorous attention.” In Scotland, and I may almost say in England, although my observations there have been less extensive, this is not the case ; the development being in general larger in men than in women. “It is moreover,” says he, “larger in Negroes and in the Celtic tribes than in the Teutonic races ; in the French, for instance, it is larger than in the Germans. The national character of these nations not only does not confirm the opinion of Mr Combe, but is in direct contradiction to it.” From this and some other objections of Dr Spurzheim, which I pass over without comment, I am convinced that he has not correctly apprehended the quality of mind which I designate Concentrativeness. This must, no doubt, be my fault ; but it affords a good reason for not prolonging disputation. So far as my knowledge of French literature extends, it is not marked by deficiency of Concentrativeness. The intellectual range of the French is limited, but no nation attains to greater perfection within the sphere which their faculties are calculated to reach : they write the best elementary works on Science of any people in Europe ; and to this Concentrativeness is essential. They bring their powers to bear in a regulated manner on the point under consideration, and present it clearly and definitely to the understanding. The Germans have more powerful reflecting faculties than the French, and also greater perseverance ; but, if I may judge from the limited knowledge of their literature which I have been able to obtain, and, from a residence of eighteenth months in Germany, they appear inferior to them in Concentrativeness. They introduce more frequently

extraneous ideas and feelings, and in their composition do not present so neat and complete a whole. The organ is large in the Negroes and Scotch, deficient in the Germans, full in the Chinese, and Hindoos, moderate in the ancient Greeks, and small in the Peruvians.

In regard to the tendency to "Inhabitiveness," I conceive that concentration of mind is favourable to this tendency, and that those men and animals whose faculties are most concentrated, have the greatest inclination to remain in one place; besides, animals which browse on rocks, and which place their nests in high and difficult situations, or by the banks of rapid rivers, seem to need just such a faculty as this to enable them to maintain their position with ease, and at the same time to provide food, and to watch for their safety. The eagle, which loves to soar aloft, requires the activity of certain faculties to maintain his equilibrium, while at the same time his eye darts over a great expanse "through the azure deep of air," to discern his prey on the surface of the earth. There are farther needed a concentration and simultaneous action of numerous faculties in the stoop which he makes upon the prey itself. Something of the same kind is required in the water-fowl, whose cradle is the deep, in diving for his food through the waters. The co-operation of all his powers is necessary to maintain him in that situation, and at the same time to enable him to secure his prey, and avoid his numerous enemies. The skulls of carnivorous animals indicate a larger development of this part of the brain, than those of herbivorous creatures; and the former appear to me to manifest, in their habits, more of the quality of continuousness of emotion, and concentrativeness of attention, than the latter. In this way I conceive that the new functions attributed to this organ do not supersede the old, nor imply any incorrectness in the observations which led Dr Spurzheim to conjecture its uses: at the same time there may be a modification of the faculty itself in different species of animals, which may determine some to high and some to low situations; while, in man, it

may be a more general faculty, without determining to a residence of any particular kind.

The strongest expression of this faculty which I have observed is in rope-dancers, and equestrian performers. Their countenances shew a great internal concentration, watching and directing the slightest motions of the body; and in the head of Ducrow, of which the Phrenological Society has a cast, the organ is very large. He manifested the faculty in the highest degree.

Since the third edition of this work was printed, Dr Spurzheim has replied very fully to my observations on Concentrativeness, in his work on Phrenology published at Boston, United States, in 1832, vol. i. p. 169. I have perused his statements with all the attention and respect due to a master and a most esteemed friend, and with the single object of arriving at the truth; but still I am not satisfied that my previous views were erroneous. As the functions of this organ, however, can be settled by facts alone, I consider it unnecessary to reply to the arguments brought forward by Dr Spurzheim in opposition to my opinions. The reader must judge for himself. Dr Spurzheim alludes to the development of the organ in his own head. "The organ" says he, "is small in my head, and when I objected against the former definition of Concentrativeness, 'the tendency to maintain two or more powers, in simultaneous and combined activity, so that they may be directed towards one object,' considering such an operation of the mind rather as intellectual than affective, I was told that I could not easily conceive this primitive power, since the organ is small in my brain. I confess that this answer never satisfied my mind. I allow that several feelings and their respective organs are small in my head; but this did not prevent me to conceive their existence in others, being guided by reasoning and by facts," p. 174. In this last observation, Dr Spurzheim is in the right. If I had succeeded in determining accurately the primitive function, in defining it, and in proving its truth by sufficient facts and arguments, he would unques-

tionably have understood what I meant. But I have all along confessed that I have not succeeded in accomplishing so much. Nevertheless, in consequence probably of the organ being large in my own brain, I have a strong feeling of the mental quality connected with it; while, in conversing with Dr Spurzheim on the subject, he appeared to me to have so weak a consciousness of the quality, that we never could succeed in understanding each other's experience in regard to it, and this is the circumstance to which he alludes. There is no delicacy in now adding, that the deficiency of Concentrativeness appeared to me to be a striking feature in Dr Spurzheim's mental manifestations, whether as a lecturer, as an author, or in conversation; and that if a large development of this organ had been added to his splendid moral and intellectual gifts, the powers of his mind as a public teacher would have been rendered still more efficient than they were.

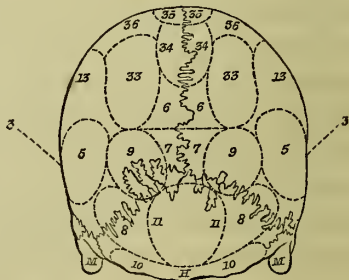
The leading object of these discussions is to enable the reader to form an idea of the mental quality, if it be such, intended to be designated by Concentrativeness, so that he may be able to decide on the function of the organ by his own observations. It acts along with the feelings as well as with the intellect, and prolongs emotions. Abstract reasoning is not admitted in Phrenology as proof in favour of any organ or faculty; and I have observed that, by leading the mind insensibly to adopt a conclusion for or against particular ideas, it produces a tendency to seek support for opinions rather than truth, and thereby retards the progress of accurate investigation. This is an additional reason for abstaining from farther argument on the subject. The reader who wishes for additional information in regard to it, may consult the following able communications on Concentrativeness, in the ninth volume of the *Phrenological Journal*: "Remarks on Inhabitiveness and Concentrativeness," p. 330; and two letters, p. 612, one anonymous, and the other by Mr William Hancock jun., suggesting that *the love of pursuit*, or *constancy*, is the function of the organ. See also vol. x. p. 290, 572, 671; xi. 44, 358, 377; xii. 223; xiv. 18, 58, 287, 288;

and xv. 253. The faculty is stated as only probable, and stands open for further elucidation.

While these numerous discussions have been proceeding in Britain, Dr Vimont has made some very interesting investigations on the subject, which I shall now present.

“After having compared,” says Dr Vimont, “a very considerable number of skulls of persons distinguished by a well-marked character for Pride, I have been convinced that Drs Gall and Spurzheim have placed the organ of this faculty too far backwards, or, at least, that a great portion of the convolution which constitutes it, that is to say, about the two posterior thirds, will belong to another organ. It appears, from my observations, that the space between Self-esteem and Philoprogenitiveness, presents a greater extent than is assigned to it by Dr Gall, and that there are two distinct organs in that situation, the one superior, No. 6, the other inferior, No. 7.¹

“The first occupies the posterior and superior angle of the parietal bones, and the second the superior angle of the occipital bone. When this last is much developed, it raises up a little the most distant portion of the posterior and superior angle of the parietal bones.



The anatomical remark which I have now made, and of which nobody has spoken before me, may throw some light on a kind of polemical discussion which arose between Dr Spurzheim and Mr George Combe, and in which the latter

¹ The numbers on the cut indicate the following organs, according to Dr Vimont's arrangement: 3 Destructiveness; 5 Combativeness; 6 Inhabitiveness; 7 Concentrativeness, 8 Attachment for life; 9 Adhesiveness; 10 Amativeness; 11 Philoprogenitiveness; 13 Cautiousness; 33 Love of Approbation; 34 Self-esteem; 35 Firmness; 36 Conscientiousness.

shewed much talent. The discussion related to a new faculty, which, according to Mr Combe, had for its function the concentration of the mind on such or such objects. He believed, however, that its influence was more extensive, and that the faculty for the choice of places, or of habitation of Dr Spurzheim, belonged to the same faculty. After having read the observations of Mr Combe, and the objections of Dr Spurzheim, it appeared to me clear that the reasonings of Dr Spurzheim did not at all invalidate the observations of Mr Combe. But I do not agree with the latter in thinking, that the faculty of Inhabitiveness, and that of Concentrativeness, depend on the same organ. On the contrary, I am satisfied, that there is a distinct organ for each, the first corresponding to No. 6, and the second, lower down, No. 7. The latter appears to me to be the organ to which Mr Combe gives the name of Concentrativeness. He states, that he had found this organ largely developed in all persons who were capable of arresting, for a long time, their minds on one subject.

“I am the more disposed to admit the soundness of the ideas of Mr Combe on this faculty, but locating its organs differently; that my researches in comparative anatomy afford new evidence in its favour. Long before Mr Combe,¹ I had fixed my attention, as will immediately be seen, on this faculty; only I thought that it was to be met with in the lower animals alone, while I am now disposed to believe that it is to be found also in man.

“One day, when I conversed with a huntsman on the most remarkable faculties of the dogs employed in the chase,

¹ My views of Concentrativeness appeared in the “*Outlines of Phrenology*,” which form part of the “*Transactions of the Phrenological Society*,” published in 1824, and I am not certain whether they were published before that date or not. In these *Outlines*, I adopt the name of Concentrativeness, and, after mentioning Dr Spurzheim’s function of Inhabitiveness, add, “from more enlarged observations, it now seems probable that part of its functions is to maintain two or more powers in simultaneous and combined action, and to determine them towards one object.” It is ascribed by me also to the lower animals, p. 68.

he asked me to what faculty I would ascribe the quality which distinguished the setter dog; and by this he meant, as well as I, the faculty which this animal possesses, of stopping short when he has discovered the game. My answer was, that this mode of action was the result of the education which he had received. However, after having remarked that many dogs placed themselves naturally in the attitude of setting, without having received any previous training, and that there were certain species which could not be educated to this mode of action, I thought that the disposition to set must be referrible to an innate disposition, which education only developed. In studying the conduct of many animals, I found that this faculty was in some sort common to all the species, although some possessed it in a more remarkable degree than others. Thus, I had seen cats and foxes, in going in search of their prey, present all the characteristics of a setter dog. I saw one day in a garden under my window, a cat which watched a sparrow; its body was lengthened out; its head was held high and forward, and, except for the movements of its tail, I should have taken it for a cat stuffed with straw.

“The examination of the skulls of two setter dogs in my collection, also of the skulls of martens, cats, and foxes, in all of which creatures I believed that I recognised similar dispositions, was, at the moment, of no utility. It was by observing the habits of some birds, and the examination of their skulls, that I arrived at the discovery of this faculty, and was enabled to fix definitely its organ.

“I have always been in the practice of opening the stomachs of all the birds which I receive. In doing so, I had particularly in view to discover the substances which composed their food. One day I found in the pharynx and stomach of a crested grebe (*Grèbe cornu*, *Colymbus cristatus*),¹ several little fishes known in Normandy under the name of *de dards*.

¹ The crested grebe is a very beautiful aquatic bird. The feathers of its abdomen have the brightness of silver, and are used to make tippets and muffs.

“How does it happen,” said I, “that this bird can seize a fish in such a medium as water, the slightest movement of which must be sufficient to enable it to escape? To accomplish such an object, an inconceivable extent of address and circumspection must be necessary. As this was the first skull of a grebe which I had seen, its singular shape attracted my attention; for, although it presented, in many respects, some analogy with those of other species which I then possessed (1819), it differed from them considerably in other particulars. The circumstance which particularly fixed my attention was, not only the remarkable development of the anterior part of the frontal bone, but also that of the regions situated above the lateral portions of the cerebellum. In 1821, I procured a young cormorant. On opening its stomach, I found in it, as in the crested grebe, a multitude of fishes; but a peculiar configuration of its skull also struck me; it was the resemblance of its shape to that of the grebe. In it, as may be seen in Plate lv. fig. 1., the parts situated over the sides of the cerebellum are also very much enlarged, the lateral portions, in particular, were so in a remarkable degree. As I then possessed more than seven hundred skulls of birds, I collected and compared all those which presented a character similar to that which I had observed in the grebe. I saw with satisfaction, that all those which belonged to birds that have the habit of settling on their prey for a long time, or with an extreme attention, were precisely those which presented this configuration to whatever class they belonged. The names and drawings of the heads of the birds in which I met with this organization, are the following. The crested grebe already mentioned; the great and the little cormorant, Pl. lv. fig. 1 and 5; the blue heron; the bittern; and the aigrette; *id. pl.* fig. 2, 3, and 4; the guillemot, Pl. lix. fig. 7; in the sea-swallows (*les hirondelles de mer*),¹ Pl. liv. fig. 2, 4, and 5; in the fisher martin (*le martin pecheur*, *id. pl.* fig. 1.)

¹ These skulls do not appear in this plate, No. liv. in Dr Vimont's atlas.

"I examined all these skulls, after placing them on a table, in such a manner as to be seen from behind, and was surprised at their resemblance in one point (see fig. 3. Pl. xciii. No. 7), although they differed extremely in all the others. I was thus led to consider as primitive the particular faculty of being able to arrest, for a long time, their attention on one object, which certain animals possess, such as the setter dog, the fox, and the cat, among quadrupeds, and the grebe, the cormorants, and the fisher martin among birds. The convolution marked on the brain of the martin, Plate lxxv. fig. 7, and all the portion of the convolution placed after No. 12, on the brain of the cat, *id. pl.* fig. 2, is that which I consider as connected with the faculty in question. I have found this part very prominent in the exterior of the skull of the fox; it is much less so on that of the badger; it is very large in the skull of a hunting dog, which was presented to me by Dr Gaubert, and on the skulls of four excellent setter dogs, which make part of my collection.

"If there exists, as I am much disposed to believe, a similar organ in man, it ought, in my opinion, to occupy the part of the superior angle of the occipital bone, marked No. 7. Pl. lxxxix. fig. 2, and the region immediately above (6) should be the organ of the choice of a dwelling-place.¹

"It must now be by means of observations, repeated a great many times, on persons whose habits are well known, that phrenologists must arrive at the certainty of there being, or not being, in the human species, a constant relation between the development of this part of the brain and the qualities attributed to it by Mr George Combe."

I have found Dr Vimont's views supported by a number of facts.

¹ "As to the lower animals, I consider it as almost demonstrated. I beseech my readers to peruse what Mr Combe has written on this faculty in man. His remarks appear to me worthy of the attention of Phrenologists. I should have presented them entire in this volume, if I had not found myself compelled to confine myself within certain limits," p. 216.—*Vimont*.

4.—ADHESIVENESS.

This organ is situated at the middle of the posterior edge of the parietal bone, on each side of Concentrativeness, higher up than Philoprogenitiveness, and just above the lambdoidal suture. When it is very large, annular protuberances will be observed there; or a general fulness, if the neighbouring organs be large: when the organ is small, that part of the head is narrow or depressed.

Dr Gall was requested to mould for his collection the head of a lady, who was described to him as a model of friendship. He did so, more through complaisance than in expectation of making any discovery. On examining the head, he found two large prominences, in the form of a segment of a sphere, at the sides of the organ of Philoprogenitiveness. These prominences, which he had not previously observed, were symmetrical, and manifestly formed by parts of the brain; and he therefore concluded that they indicated organs. But the question was, What are their functions? He inquired at the friends of the lady concerning her dispositions and talents, and also obtained her own opinion of the feelings and capacities which she most strongly possessed. All the information concurred in regard to the fact, that she was distinguished by inviolable attachment to her friends. Although, at different periods of her life, her fortune had undergone great changes, and on several occasions she had passed from poverty to riches, her affection for her former friends was never forgotten. The idea naturally presented itself, that the disposition to attachment might be connected with a particular part of the brain. This inference acquired greater probability from the circumstance, that the prominences on the head of this lady were placed in the immediate neighbourhood of the organs of Amativeness and Philoprogenitiveness, and that the three feelings have obviously some analogy to each other. Many subsequent observations

confirmed Dr Gall's conjecture, and the organ has long been regarded as established.

The faculty gives the instinctive tendency to attachment, and causes us to experience delight in a return of affection. Those in whom it is strong, feel an involuntary impulse to embrace, and to cling to any object which is capable of experiencing fondness. It gives ardour and a firm grasp to the shake with the hand. In boys, it frequently displays itself in attachment to dogs, rabbits, birds, horses, or other animals. In girls, it adds fondness to the embraces bestowed upon the doll. The feelings which it inspires abound in the poetry of Moore. He beautifully describes its effects in the following lines :—

“ The heart, like a tendril accustomed to cling,
Let it grow where it will, cannot flourish alone ;
But will lean to the nearest and loveliest thing,
It can twine with itself, and make closely its own.”

It also inspires the verse—

“ The heart that loves truly, love never forgets,
But as truly loves on to the close ;
As the sun-flower turns to her god as he sets,
The same look that she turned when he rose.”

The old Scotch ballad, “ There's nae luck about the house,” breathes the very spirit of this faculty.

The organ is generally larger, and the faculty stronger, in women than in men ; and the extreme constancy with which, in general, they adhere to the objects of their attachment may be attributed to this faculty. “ Man boasts of his capacity for friendship,” says Mr Scott, “ and falsely speaks of its joys as the purest of all human enjoyments. But it is only in the heart of feeling, confiding, generous woman, that friendship is to be found in all the fulness of perfection. It was part of the doom pronounced upon her at the fall, that ‘ her desire should be to her husband, and that he should rule over her ;’ and, conformably to the first clause

in this sentence, we find Adhesiveness to be, in general, far more powerful in the woman than in the man. The most generous and friendly man is selfish in comparison with woman. There is no friend like a loving and an affectionate wife. Man may love, but it is always with a reserve, and with a view to his own gratification; but when a woman bestows her love, she does it with all her heart and soul.”¹

This great proneness to, and ardour in, attachment on the part of the female sex, render those men doubly guilty, who, on the false hypothesis that affection readily and warmly bestowed may be lightly withdrawn and directed to another, sport with this beautiful trait of female nature, and gain the affections of women, to betray their honour, or to gratify a silly vanity in being loved.

There is a great difference among individuals in regard to the strength of this feeling. Some men have many acquaintances but no friends; while others remain attached to certain individuals during every change of circumstances, and do not readily enlarge the circle of their intimates. When the organ is large, delight is felt in friendship and attachment, the idea of distant friends often presents itself, and the glow of affection rushes into the mind with almost the warmth and vivacity of a passion. Those in whom it is small care little for friends; out of sight, out of mind, is their practice. We frequently see individuals of very different dispositions and talents, lastingly attached to each other. Adhesiveness, strong in both, seems to be the bond of union. They perhaps feel many points of repulsion, and are not happy if too long and too closely united; but still, on being separated, they experience a longing for each other's society, which makes them forget and forgive every thing to obtain its gratification. There are husbands and wives who cannot live together, and who yet become miserable when long separated. I conceive this to arise from strong Adhesiveness in both, combined with other faculties in each, which do not harmonize.

¹ *Phren. Journ.* vol. ii. p. 280.

This faculty is distinguishable from Benevolence, for many persons are prone to attachment who are not generous. It, however, has a more extensive influence than the production of friendship among individuals, and appears to give rise to the instinctive tendency to congregate, whence society has originated. Man is created obviously with a view to the social state. His feelings of benevolence, love of praise, and justice, need intercourse with intelligent beings for their gratification, as indispensably as the stomach requires food to enable it to perform the process of digestion; and Nature, by means of this faculty, seems to give the instinctive tendency to associate, by means of which the whole powers of the mind may find scope for exercise. If this view be correct, deficiency in the organ must be essential to an anchorite or hermit.

Some of the lower animals possess this propensity as well as man: It is remarkably strong in the dog; and horses and oxen sometimes become sick and pine, when deprived of accustomed companions. "It is to be observed, however," says Dr Spurzheim, "that the instinct of being attached for life, and that of living in society, are not mere degrees of energy of the faculty of attachment. For there are animals which live in society without being attached for life, as the bull, the dog, cock, &c.; others which live in society, and in families, as starlings, ravens, crows, &c.; and others again which are attached for life without living in society, as the fox, magpie, &c." The instinct, therefore, of living in society, and that of living in family, he regards as *modifications* of the faculty in question; just as smell and taste, although the same senses in herbivorous and carnivorous animals, are modified in the former to relish vegetable substances, and, in the latter, animal fibre and effluvia. "Man belongs to the class of animals which is social and attached for life; society and marriage are consequently effects not of human reflection, but of an original decree of nature."¹

Dr Gall does not coincide in the opinion that attachment

¹ *Phrenology*, p. 152.

for life in man and animals results from this organ. It appears to him, as far as his knowledge of natural history extends, that, in all species where both the male and female concur in rearing the young, marriage for life exists; and that, on the other hand, where the unaided female is sufficient for this end, the connection is temporary. At the same time, he speaks with much reserve on the subject, and is not prepared to decide, whether there is a separate organ for attachment for life, or whether it is the result of a combination of several organs, or a modification of Adhesiveness.¹

Dr Vimont considers "union for life" to result from a fundamental faculty, and not from a modification of Adhesiveness. He observes, that the dog is attached to his master, yet he does not live in a state of attachment to the female for life. Wolves, stags, and wild-boars, live in troops, and yet are not attached for life. The fox, although trained by man from the first, never becomes attached to any individual; nevertheless he unites himself to the female for life. The roe-buck and the marten, as well as the fox, among quadrupeds; the crow, the magpie, the swallow, and the sparrow, among birds, live in flocks, and *are* attached to a particular female for life. These facts, says Dr Vimont, shew that the instinct of attachment and that of attachment for life, are not the same. In observing the posterior margin of the cerebral hemispheres, from the point where the one touches the other, all along to the exterior margin of the posterior lobe, this last portion will be found to be much more developed in the brains of those species which are attached for life, than in the brains of those which are not so attached.²

Excessive energy of this faculty produces extreme regret at the loss of friends, or at leaving our country. Nostalgia is supposed to result from disease of the organ.³

¹ See a Letter on Marriage, in the *Phrenological Journal*, ii. 178.

² See Dr Vimont's views stated on p. 211 of this work. See also his "Traité de Prenologie," vol. ii. p. 217, 220.

³ Some interesting observations on the insanity of Adhesiveness, will be found in Dr Andrew Combe's *Observations on Mental Derangement*, pp. 167, 248.

Mr Stewart¹ and Dr Thomas Brown² admit this tendency as a primitive instinct of our nature, and concur in general with the views of phrenologists in regard to it.

J. J. Rousseau founds his celebrated Essay on the Origin of the Inequality of Ranks, which obtained the prize from the Academy of Dijon, on the non-existence of such a propensity in the human mind. He views man in his natural state as an isolated and wandering animal, satisfying his hunger by the chase or by the fruit of the forest, and quenching his thirst at the spring or the brook, and having no more need or desire of society with his kind than the eagle or the wolf. He conceives, that the individual who first enclosed a spot of ground and called it *mine*, and who first cajoled his fellow-men to settle around him and assist him in his projects, was the author of all the evils with which human nature is now afflicted. Many volumes have been written in answer to this absurd lucubration ; but I submit, that Phrenology, by shewing that those who have this part of the brain large, are inspired with an instinctive tendency to associate with their fellows, affords a brief and satisfactory refutation of the hypothesis.

The great activity of this organ disposes persons to embrace and cling to each other ; two children in whom it is active will put their arms round each other's necks, and lay their heads together, causing them to approach in the direction of the organ of Adhesiveness, or assuming this attitude as nearly as possible. A dog, when anxious to shew his attachment, will rub his head at the seat of this organ on his master's leg. When two persons, in whom this organ is very large, meet, they feel an involuntary attachment springing up in their minds toward each other, unless their other faculties be very incongruous.

The organs of Amativeness, Philoprogenitiveness, and Adhesiveness, form the group of the domestic affections. A physician mentioned to me that he had a patient who came from London in bad health, and died, in his brother's

¹ *Outlines*, p. 87.

² *Lecture 67*.

house in Edinburgh, apparently of pulmonary consumption. His lungs were found to be partially diseased; but as no intellectual aberration had been observed in him by his medical attendants, his brain was not at first examined. His brother, however, requested that his head should be opened. The physicians were then surprised to discover twenty-seven abscesses in the brain and cerebellum, of which eleven were in the cerebellum, and ten or eleven in the posterior lobes. There was only one, in the anterior lobe, devoted to intellect, and it was situated in the organ of Time, on the left side. He had made his will two days before his death, and to his physicians his mind seemed to be entire. His brother, however, now assigned as the reason why he desired the brain to be examined, that he had observed, that, before his death, the deceased had manifested an almost total loss of affection for his wife and children, to whom, when in health, he had been tenderly attached. The coincidence between the seat of the disease, and the decay of the domestic affections, is striking. This case elucidates the remarks formerly made, that before pathological cases can be successfully observed and reported, medical men must know the healthy functions of the different parts of the brain.

The organ is regarded as established.

5.—COMBATIVENESS.

This organ is situated at the posterior-inferior angle of the parietal bone, a little behind and up from the ear.

Dr Gall gives the following account of its discovery. After he had abandoned all the metaphysical systems of mental philosophy, and become anxious to discover, by means of observation, the primitive propensities of human nature, he collected in his house a number of individuals of the lower classes of society, following different occupations, such as coach-drivers, servants, and porters. After acquiring their confidence, and disposing them to sincerity, by giving them

wine and money, he drew them into conversation about each other's qualities, good and bad, and particularly about the striking characteristics in the disposition of each. In the descriptions which they gave of each other, they adverted much to those individuals who everywhere provoked quarrels and disputes; they also distinguished those of a pacific disposition, and spoke of them with contempt, calling them poltroons. Dr Gall became curious to discover, whether the heads of the *bravoes* whom they described differed in any respect from those of the pacific individuals. He ranged them on opposite sides, and found, that those who delighted in quarrels had that part of the head immediately behind and a little above the ear much larger than the others.

He observes, that there could be here no question about the influence of education, and that this prominent feature in the character of each could never be attributed to the influence of external circumstances. Men in the rank to which they belonged, abandon themselves without reserve to the impulses of their natural dispositions.

The spectacle of fighting animals was, at that time, still existing at Vienna. An individual belonging to the establishment was so extremely intrepid, that he frequently presented himself in the arena quite alone, to sustain the combat against a wild boar or a bull. In his head, the organ was found to be very large. Dr Gall next examined the heads of several of his fellow-students, who had been banished from universities for exciting contentions and continually engaging in duels. In them, also, the organ was large. In the course of his researches, he met with a young lady who had repeatedly disguised herself in male attire, and maintained battles with the other sex; and in her head, also, the organ was large. On the other hand, he examined the heads of individuals who were equally remarkable for want of courage, and in them the organ was small. The heads of the courageous persons varied in every other point, but resembled each other in being broad in this place.

Equal differences were found in the other parts of the heads of the timid, when compared with each other, but all were deficient in the region of Combativeness.

This faculty has fallen under the lash of ridicule, and it has been objected that the Creator cannot have implanted in the mind a faculty for fighting. The objectors, however, have been as deficient in learning as in observation of human nature. The profoundest metaphysicians admit its existence, and the most esteemed authors describe its influence and operations. The character of *Uncle Toby*, as drawn by Sterne, is in general true to nature; and it is a personification of the combative propensity, combined with great benevolence and integrity. "If," says *Uncle Toby*, "when I was a school-boy, I could not hear a drum beat but my heart beat with it, was it my fault? Did I plant the propensity there? Did I sound the alarm within, or Nature?" He proceeds to justify himself against the charge of cruelty supposed to be implied in a passion for the battle-field. "Did any one of you," he continues, "shed more tears for Hector? And when King Priam came to the camp to beg his body, and returned weeping back to Troy without it,—you know, brother, I could not eat my dinner. Did that bespeak me cruel? Or, because, brother Shandy, my blood flew out into the camp, and my heart panted for war, was it a proof that it could not ache for the distress of war too?"

Tacitus, in his history of the war by Vespasian against Vitellius, mentions, that "Even women chose to enter the capitol and abide the siege. Amongst these, the most signal of all was Verulana Gracilia, a lady, who followed neither children nor kindred, nor relations, but followed only the war."—*Lib. iii.* "Courage," says Dr Johnson, "is a quality so necessary for maintaining virtue, that it is always respected, even when it is associated with vice."

Mr Stewart and Dr Reid admit this propensity under the name of "sudden resentment;" and Dr Thomas Brown, under the name of "instant anger," gives an accurate and beautiful description of it when acting in combination with Destruc-

tiveness. "*There is a principle in our mind,*" says he, "*which is to us like a constant protector ; which may slumber, indeed, but which slumbers only at seasons when its vigilance would be useless, which awakes therefore at the first appearance of unjust intention, and which becomes more watchful and more vigorous in proportion to the violence of the attack which it has to dread. What should we think of the providence of nature, if, when aggression was threatened against the weak and unarmed, at a distance from the aid of others, there were instantly and uniformly, by the intervention of some wonder-working power, to rush into the hand of the defenceless, a sword or other weapon of defence ? And yet this would be but a feeble assistance, if compared with that which we receive from those simple emotions which Heaven has caused to rush, as it were, into our mind, for repelling every attack.*"—Vol. iii. 324. This emotion is exactly the phrenological propensity of Combativeness aided by Destructiveness. The chief difference between Dr Brown's views and ours is, that he regards it as a mere susceptibility of emotion, liable to be called into action when provocation presents itself, but slumbering in quiescence in ordinary circumstances ; while we look upon it as also a spontaneously active impulse, exerting an influence on the mental constitution, independently of unjust attack. It is to express this active quality, that the term *Combativeness* is used to designate the faculty.

Combativeness, then, confers the instinctive tendency to oppose. In its lowest degree of activity it leads to simple resistance ; in a higher degree to active aggression, either physical or moral, for the purpose of removing obstacles. Courage is the feeling which accompanies the active state of this propensity. Hence an individual with predominating Combativeness anticipates in a battle the pleasure of gratifying his ruling passion, and is blind to all other considerations. His love of contention is an instinct. He is a fighting animal. Courage, however, when properly directed, is useful to maintain the right. On this account, a consider-

able endowment of it is indispensable to all great and magnanimous characters. Even in schemes of charity, or in plans for the promotion of religion or learning, opposition will arise, and Combativeness inspires its possessor with that instinctive boldness which enables him to look undaunted on a contest in virtue's cause, and to meet it without shrinking. Were the organ very deficient in the promoters of such schemes, they would be liable to be overwhelmed by contending foes, and baffled in all their exertions. Indeed, I have observed that the most actively benevolent individuals of both sexes—those who, in person, minister to the relief of the poor, and face poverty and vice in their deepest haunts, to relieve and correct them—have this organ fully developed.

The organ is large in valiant warriors. In the skulls of King Robert Bruce,¹ and General Wurmser, who defended Mantua against Bonaparte, and whom the latter described as a fighting dragoon, it is exceedingly conspicuous. The subjoined figures represent Wurmser's skull contrasted at this organ with the skull of a Cingalese boy, in which it is small. The figures of Hare and Melancthon, on p. 141,

GENERAL WURMSER.



CINGALESE BOY.

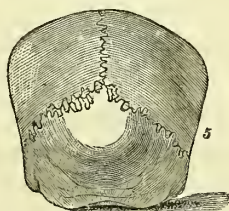


exhibit Combativeness largely and moderately developed; and the reader will find additional examples of its great development in the heads of Caracalla and the Roman Gladiator, delineated in Dr Spurzheim's *Physiognomy*, plates 14 and 32. It is very large in Linn, and moderate in the Rev. Mr M., whose heads are represented on p. 184 of the present volume.

¹ *Trans. of the Phren. Soc.*, p. 247.

In feudal times great Combaticiveness was more essential to a leader than it is in modern warfare. Richard Cœur de Lion, Bruce, and Wallace, could command the fierce barbarians whom they led to the field, only by superior personal prowess ; and, indeed, hope of victory was then founded, to a great extent, on the dexterity with which the chief could wield his sword. In modern warfare comprehensiveness of intellect is more requisite in a general ; but still Combaticiveness is a valuable element in his constitution. Napoleon distinguished accurately between these two qualities. He describes Ney and Murat as men in whom animal courage predominated over judgment ; and notices their excellence in leading an attack or a charge of cavalry, accompanied by incapacity for conducting great affairs. The most perfect military commander, he says, is formed when courage and judgment are *in equilibrio*—in phrenological language, when the organs of Combaticiveness, moral sentiment, and reflection, are in just proportion to each other.

This faculty is of great service to a barrister : it furnishes him with the spirit of contention, and causes his energies to rise in proportion as he is opposed.

Combined with Destructiveness, it inspires authors with the love of battles. Homer and Sir Walter Scott are fired with more than common energy, when describing the fight, the slaughter, and the shouts of victory. From the sympathy of historians, orators, and poets, with deeds of arms, warriors are too inconsiderately elevated into heroes, and thus slaughter is fostered and rendered glorious, with little reference to the merits of the quarrel. Phrenology, by revealing the true source of the passion for war, will, it is to be hoped, one day direct the public sentiment to mark with its highest disapprobation every manifestation of this faculty that is not sanctioned by justice, and then we shall have fewer battles and inflictions of misery on mankind.

When too energetic and ill-directed, it produces the worst results. It then inspires with the love of contention for its own sake. In private society it produces the controver-

sial opponent, who will wrangle and contest every point, and, "even though vanquished, who will argue still." When thus energetic and active, and not directed by the Moral Sentiments, it becomes a great disturber of the peace of the domestic circle: Contradiction is then a gratification, and the hours which should be dedicated to pure and peaceful enjoyment are embittered by strife. On the great field of the world, its abuses lead to quarrels, and, when combined with Destructiveness, to bloodshed and devastation. In all ages, countless thousands have thronged round the standard raised for war, with an ardour and alacrity which shewed that they experienced pleasure in the occupation.

"Dr Parr was the admirer and advocate of pugilistic encounters among the boys who were his pupils; and he defended the practice by the usual arguments, such as the exercise of a manly and useful art, calculated to inspire firmness and fortitude, and to furnish the means of defence against violence and insult. It was amusing to hear him speak of the tacit agreement which subsisted, he said, between himself and his pupils at Stanmore, that all their battles should be fought on a certain spot, of which he commanded a full view from his private room; as thus he could see without being seen, and enjoy the sport without endangering the loss of his dignity. It is mentioned that his hind head was remarkably capacious."

Persons in whom the propensity is strong, and not directed by superior sentiments, are animated by an instinctive tendency to oppose every measure, sentiment, and doctrine, advocated by others; and they frequently impose upon themselves so far, as to mistake this disposition for an acute spirit of philosophising, prompting them to greater rigour of investigation than other men. Bayle, the author of the *Historical Dictionary*, appears to have been a person of this description; for, in writing, his general rule was to take the

¹ *Field's Memoir of Dr Parr*, vol. i. p. 102. *Phren. Journ.*, vol. xii. p. 159.

side in opposition to every one else ; and hence it has been remarked, that the way to make him write usefully, was to attack him only when he was in the right, for he would then combat in favour of truth with all the energy of a powerful mind. William Cobbett mentions, that, in his youth, the rattle of the drum inviting him to war was enchanting music to his ears, and that he ardently became a soldier. In his maturer years, the combative propensity seemed to glow with equal activity in his mind, although exerted in a different direction. By speech and writing he contended in favour of every opinion that was interesting for the day. To Combativeness was owing no small portion of that boldness which even his enemies could not deny him to possess.

The organ is large also in persons who have murdered from the impulse of the moment, rather than from cool deliberate design. The casts of Haggart and Mary Macinnes are examples in point. The same is the case in several casts of Caribs' skulls, a tribe remarkable for the fierceness of their courage. The ancient artists have represented it large in their statues of gladiators. The practice of gladiatorship, as also the prize-fights of England, have for their object the gratification of this propensity.

When the organ is very large and active, it gives a hard thumping sound to the voice, as if every word contained a blow. Madame de Stael informs us, that Bonaparte's voice assumed this kind of intonation when he was angry ; and I have observed similar manifestations in individuals whom I knew to possess this part of the brain largely developed. When predominant, it gives a sharp expression to the lips, and the individual has the tendency to throw his head backwards, and a little to the side, in the direction of the organ, or to assume the attitude of a boxer or fencer.

When the organ is small, the individual experiences great difficulty in resisting attacks ; and he is not able to make his way in paths where he must invade the prejudices or encounter the hostility of others. Excessively timid children are generally deficient in this organ and possess a large

Cautiousness ; their heads resembling the figure of the Cingalese boy on p. 247. I conceive the extreme diffidence and embarrassment of Cowper the poet to have arisen from such a combination ; and in his verses he loathes war with a deep abhorrence. Deficiency of Combateness, however, does not produce fear ; for this is a positive emotion, often of great vivacity, which cannot originate from a mere negation of an opposite quality.

Combateness is generally more developed in men than in women ; but, in the latter, it is sometimes large. If it predominates, it gives a bold and forward air to the female ; and when a child she would probably be distinguished as a romp.

In society it is useful to know the effects of this faculty, for then we can treat it according to its nature. When we wish to convince a person in whom the organ is large and Conscientiousness deficient, he will never endeavour to seize the meaning or spirit of our observations, but will pertinaciously put these aside, catch at any inaccuracy of expression, fly to a plausible although obviously false inference, or thrust in some extraneous circumstance, as if it were of essential importance, merely to embarrass the discussion. Individuals so constituted are rarely convinced of any thing ; and the proper course of proceeding with them, is to state our propositions clearly, and then drop the argument. This, by withdrawing the opportunity for exercising their Combateness, is really a punishment to them ; and our views will have a better chance of sinking into their minds, unheeded by themselves, than if pertinaciously urged by us, and resisted by them, which last would infallibly be the case if we shewed anxiety for their conversion. A good test for a combative spirit is to state some clear and almost self-evident proposition as part of our discourse. The truly contentious opponent will instinctively dispute or deny it ; and we need proceed no farther.

When the organ is large, and excited by strong potations, an excessive tendency to quarrel and fight is the conse-

quence. Hence some individuals, in whom it is great, but who, when sober, are capable of restraining it, appear, when inebriated, to be of a different nature, and extremely combative.¹ The organ is liable also to excessive excitation through disease. Pinel gives several examples of monomania clearly referrible to it and Destructiveness. "A maniac," says he, "naturally peaceful and gentle in disposition, appeared inspired by the demon of malice during the fit. He was then in an unceasingly mischievous activity. He locked up his companions in their cells, provoked and struck them, and at every word raised some new quarrel and fighting." Another individual, who, during his lucid intervals, was mild, obliging, reserved, and even timid in his manners, became, during the fit, highly audacious, "and experienced the most violent propensity to provoke those who approached him, and to irritate and fight them *avec outrance*." On visiting London Bedlam in 1824, I examined the head of a male patient, and pronounced Combativeness and Destructiveness to be uncommonly large. I was desired to look at his hands. They were fastened to rings in an iron girdle round his waist. He had committed murder in an access of fury, and was liable to relapses, in which he manifested these propensities with inordinate vehemence.

On the 16th day of July 1836, I was present at the *post mortem* examination of the brain of an old gentleman, who had long been remarkable for the mildness of his dispositions and the courtesy of his manners, until suddenly, in August 1832, he became extremely irritable and violent in temper. The son of his gardener describes his character as follows:—"Before Mr N. was taken ill in 1832, he was remarkable for mildness of temper; and, in speaking to his servants, he was kind and civil. At that time, a striking change took place in his temper. In coming into the garden, if he saw a straw or a leaf on the walk, he flew into a

¹ On the question, why intoxication excites in a particular manner the organs of Combativeness and Destructiveness, see *The Phren. Journ.* ix. 306.

passion. He became extremely irritable towards my father, and at one time struck him ; at another time, he threw a lock at him ; and on a third occasion spat in his face. I felt myself obliged to go out of the way occasionally when I saw him coming, and hid myself among the bushes to avoid him. My father and myself did every thing possible to please him. The same occurrences took place with his other servants, and I could give a great many similar examples." In the left posterior lobe of his brain a cavity was found, of two inches in length, lined with a yellowish membrane, into which blood had been effused and afterwards absorbed. Its centre was in Combativeness, but it extended also into Adhesiveness, and a small portion into Philoprogenitiveness. The corresponding portions of the brain on the opposite side of the brain were sound.*

The question here naturally occurs, Why was there in this case *excitement* of the function from disease of the organ, and almost extinction of the function from diseases of the organs of the domestic affections in the case reported on page 243, under Adhesiveness ? In the present case, there was only effusion of blood, without disorganization of the substance, and the injury was confined to one side of the brain ; while, from the great number of cavities which occurred in the former case, we are led to infer that in it there was *destruction* of the organs, and probably on both sides. I may, however, farther remark, that the connection between particular morbid conditions of the brain, and certain morbid manifestations of the faculties, is still little understood. "Great excitement of the brain," says Dr Combe, "arises from an exhausted as well as from an over-stimulated state of the

* See a full report and discussion of the case in the *Phrenological Journal*, vol. x. p. 355, 565, 632, 710. This case is reported also in the *Edinburgh Medical and Surgical Journal*, No. 129, by a non-phrenological medical practitioner. The reader who will peruse both reports will find that they afford an illustration of a remark previously made in this work, that it is not possible to report, with precision and accuracy, pathological cases of injuries of the brain, so long as the healthy functions of its different parts are unknown.

system, and is then appeased by food and wine, which, in the opposite state, would be destructive of life. This is seen even in the delirium of fever, which, in the commencement of the disease, is generally caused by excess, and in the later stages more frequently by deficiency of stimulus. Similar phenomena occur in the other organs. Mr Parker mentions several patients in whom epigastric pain aggravated on pressure, strong pulsations, fulness, and all the usual symptoms of inflammatory excitement, were produced by the opposite morbid state, and consequently aggravated by leeches and low diet, while they were cured by wine, nourishing food, and tonics."

This organ is found also in the lower animals; but there are great differences among them in respect to its energy. Rabbits, for instance, are more courageous than hares; and one dog looks incessantly for an opportunity of fighting, while another always flies from the combat. The bull-dog forms a contrast in this propensity to the greyhound; and the head of the former is much wider between and behind the ears than the latter. "This also," says Dr Spurzheim, "is an unfailing sign to recognise if a horse be shy and timid, or bold and sure. The same difference is observed in game-cocks and game-hens, in comparison with domestic fowls. Horse-jockeys, and those who are fond of fighting cocks, have long made this observation." I have frequently verified Dr Spurzheim's remark in regard to horses.

The name given to this faculty by Dr Gall is *the instinct of self-defence and defence of property*; but Dr Spurzheim justly regards this appellation as too narrow. "According to the arrangement of nature," says he, "it is necessary to fight in order to defend. Such a propensity must therefore exist for the purposes of defence; but it seems to me that it is, like all others, of general application, and not limited to self-defence: I therefore call the cerebral part in which it inheres the organ of the *propensity to fight* or of *Combative-ness*." Mr Robert Cox has published a minute analysis of the faculty in the ninth volume of *The Phrenological Jour-*

nal (p. 147), and arrives at the conclusion that, when stripped of all accidental modifications, it is “neither more nor less than *the instinct or propensity to oppose*, or, as it may be shortly expressed, *Opposiveness*.” He regards “Combative-ness,” or the tendency to fight, as the result of the combined action of the organ now under discussion, and that of Destructiveness.

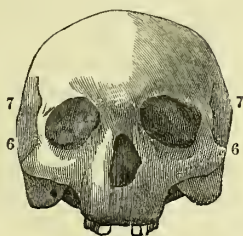
Sir George Mackenzie, unknown to Mr Cox, had previously expressed a similar view in his *Illustrations of Phrenology*, published in 1820. “We are inclined,” says he, “to consider a propensity to fight as a compound feeling; and also that desire which some persons appear to have, of being objects of terror to others. A propensity to fight implies a desire to injure. No man can feel a desire to attack another, and say that he has no desire to hurt him.” P. 99. Cases illustrative of the organ of Combative-ness will be found in *The Phrenological Journal*, v. 570; vii. 638; viii. 206, 406, 596; ix. 61; x. 213; xi. p. 333; xii. 193; xv. p. 56; and on p. 366, a case of excitement of the organ by means of mesmerism.

6.—DESTRUCTIVENESS.

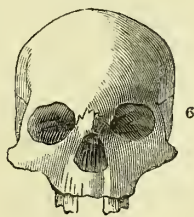
This organ is situated immediately above, and extends a little backwards and forwards from, the external opening of the ear, and corresponds to the lower portion of the squamous plate of the temporal bone.

The subjoined figures represent the skulls of Tardy and a Cingalese. A section of the latter will be found on page 144.

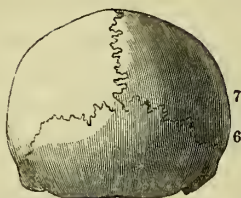
TARDY.



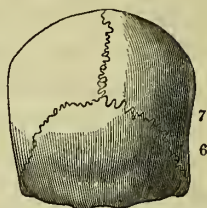
CINGALESE.



TARDY.



CINGALESE.



Tardy was a bloody pirate, and in him it is very large. In the Cingalese, who are mild, it is deficient. In Dr Gall's plates it extends a few lines farther back than in those given by Dr Spurzheim : and Dr Gall mentions, that when it is excessively large, the whole portion of the skull from the inferior margin of the parietal bones to the ears is elevated ; and that in cases of smaller development the prominence is confined to the lower part of the temporal bones. I have seen examples of both kinds. The external opening of the ear is much lower in some individuals than in others. Its depression is caused by the great size of the cerebral convolutions which lie over the petrous portion of the temporal bone and in the middle fossa of the skull, and is one sign of Destructiveness being large.

Dr Gall gives, in substance, the following account of the discovery of this organ. In comparing attentively the skulls of several of the lower animals, he observed a characteristic difference between those of the carnivorous and the graminivorous tribes. In graminivorous animals, only a small portion of the brain lies behind the external opening of the ear ; while in the carnivorous, a considerably larger mass is situated there. He found also, that the skulls of the latter were more prominent above the ear than those of the former. For a long time he merely communicated these observations to his hearers, without making the least application of them to Phrenology. He only pointed out that, by inspecting the cranium, even when the teeth are wanting, it is possible to distinguish whether the animals belong to the graminivorous or carnivorous genera. It happened, at length, that some one sent him the skull of a parricide ; but he put it aside,

without imagining that the skulls of murderers could be of any use to him in his researches. Shortly afterwards he received also the cranium of a highwayman, who, not satisfied with robbing, had murdered several of his victims. He placed these two crania side by side, and frequently examined them. Every time that he did so, he was struck by this circumstance, that, although they differed in almost every other point, each of them presented a distinct and corresponding prominence, immediately above the external opening of the ear. Having observed, however, the same prominence in some other crania in his collection, he thought that it might be by mere accident that this part was so much developed in the skulls of the murderers. It was only after a considerable time, that he began to reflect upon the different conformation of the brain in carnivorous and graminivorous animals ; and having then observed that the part which was large in carnivorous animals, was precisely that which was so much developed in the murderers, the question occurred to him, Is it possible that there can be any connection between the conformation of brain thus indicated and the propensity to kill ? “ At first,” says Dr Gall, “ I revolted from this idea ; but as my only business was to observe, and to state the result of my observations, I acknowledged no other law than that of truth.” “ Let us not, therefore,” says he, “ fear to unfold the mysteries of nature ; for it is only when we shall have discovered the hidden springs of human actions, that we shall know how to guide the conduct of men.”

This faculty has been subjected to much ridicule, owing partly to its having been named by Dr Gall the *penchant au meurtre*, or propensity to kill. It is a mistake, however, to suppose that he spoke of the organ of murder. Killing being a necessary operation, he regarded this as a legitimate aim of the faculty when rightly directed ; but “ I have never,” says he, “ in speaking of the *instinct du meurtre*, meant a propensity to homicide.” The word Destructiveness employed by Dr Spurzheim is a more comprehensive appellation, and the propensity thus designated is recognised by

many authors as existing in the human mind. Lord Kames observes, that “there is a contrivance of Nature, no less simple than effectual, which engages men to bear with cheerfulness the fatigues of hunting, and the uncertainty of capture ; and that is *an appetite for hunting*.”—“It is an illustrious instance of providential care, the adapting the internal constitution of man to his external circumstances. The appetite for hunting, though among us little necessary for food, is to this day remarkable in young men, high and low, rich and poor. Natural propensities may be rendered faint or obscure, but never are totally eradicated.”¹ Vicesimus Knox, in his *Essays*, gives a similar theory of hunting. The delight felt in this sport has been ascribed to the excitement of the chase, to emulation, and to the pleasure of succeeding in our aim ; but if these were the only sources of the enjoyment, it should be as pleasant to gallop over hill and dale, and leap hedge and ditch, without, as with, an animal in chase, and as agreeable to shoot at any inanimate object thrown into the air as at a bird. This, however, is not the case ; unless there be a creature to suffer the effects of hunting and shooting, little pleasure is derived from these laborious pastimes.

The feeling is familiar to poets and authors who delineate human nature. The description by Sir Walter Scott, of King Robert Bruce avenging on Cormac Doil the death of Allan, is written in the very spirit of Destructiveness :

“Not so awoke the King ! his hand
 Snatched from the flame a knotted brand,
 The nearest weapon of his wrath ;
 With this he crossed the murderer’s path,
 And venged young Allan well !
 The spattered brain and bubbling blood
 Hissed on the half-extinguished wood ;
 The miscreant gasp’d and fell.”

The same author recognises several of the phrenological faculties in the following lines—in particular, Love of Approbation and Destructiveness ; the latter, however, only in

¹ *Sketches*, B. i.

a state of abuse. The verses refer to the battle of Bannockburn :

“ But O ! amid that waste of life,
 What various motives fired the strife !
 The aspiring noble *bled for fame*,
 The patriot for his *country's claim* ;
 This knight his youthful strength to prove,
 And that to earn his lady's love :
Some fought from ruffian thirst of blood ;
 From habit some, or hardihood ;
 But ruffian stern, and soldier good,
 The noble, and the slave,
 From various cause the same wild road,
 On the same bloody morning trode,
 To that dark Inn the grave.”

In *Recollections of the Peninsula*, by the author of *Sketches in India*, the following passage occurs : “ As the chill dews of evening were descending on our bivouack, a staff-officer, with a courier, came galloping into it, and alighted at the quarters of our general. It was soon known among us that a severe and sanguinary action had been fought by our brother soldiers at Talavera. Disjointed rumours spoke of a dear-bought field, a heavy loss, and a subsequent retreat. I well remember how we all gathered round our fires to listen, to conjecture, and to talk about this glorious but bloody event. We regretted that we had borne no share in the honours of such a day ; and *we talked with an undefined pleasure about the carnage*. Yes ! strange as it may appear, soldiers, and not they alone, talk of the slaughter of battle-fields with a sensation which partakes of pleasure,” (p. 39). In confirmation of this remark, I may notice that I have met with some young men who possessed good moral qualities, but whose thoughts ran habitually on killing and slaughtering. The impulse was restrained, but they confessed that it would have given them great momentary gratification to smash and slay. In them the organ was decidedly large.

The object of this faculty in the human mind, and its

utility, are easily discoverable. In regarding this scene of creation, we perceive man surrounded by ferocious animals, such as lions, tigers, bears, and wolves; which not only are incapable of being tamed and put to use, but would be fatal to him if he did not destroy them. To maintain himself in existence, therefore, he must put many animals to death. Moreover, he has received from nature a stomach fitted to digest animal food, and a bodily system that is nourished, excited, and preserved in health and activity, by the aliment which it affords. To gratify this appetite, he must bereave animals of life by sudden destruction; for their flesh is unwholesome, if they die of old age or disease. Now, let us consider in what condition man, placed in these circumstances, would have stood, if he had been without this propensity. He would have been the timid prey of every ferocious animal in want of a meal. With Destructiveness in his mind, the lion and tiger read their fate in his eye, and shrink from the encounter, unless irresistibly impelled by hunger.

Farther, a series of changes, effectuated by destruction, is constantly proceeding, also, in the physical world; so that, in point of fact, we are surrounded by death in all its forms, and by destruction in its every shape; and Nature, by means of this faculty, steels our minds so far as to fit us for our condition, and to render scenes which our situation constrains us to witness, not insupportable. A certain degree of obduracy of feeling, regardlessness of suffering, and indifference to the calamities of our race, is absolutely necessary to render existence tolerable in this world of mingled joy and woe. I have seen individuals miserable from too great feebleness of this faculty. Every being in a state of pain harrowed up their feelings, lacerated their hearts, and produced a degree of continued uneasiness scarcely conceivable by persons of more obdurate dispositions.

Mr Robert Cox, in an ingenious essay on "The Laws of Activity of Destructiveness, published in *The Phrenological Journal*, vol. ix., p. 402, regards the primitive feeling mani-

fested by this organ to be "the propensity to injure."¹ "Let me not," says he, "be misapprehended. Injury does not necessarily imply malice or mischief. There are occasions when it is beneficial to injure; though doubtless the propensity is manifested less frequently in its uses than in its abuses. We may destroy, kill, or chastise, for good purposes as well as bad; nay, we are compelled to do so: and the faculty which prompts to such conduct needs only to be regulated by morality and reason. Destruction is *extreme injury*; to kill is to *injure mortally*; slander and reproach are *verbal injuries*; chastisement is *injurious* to bodily comfort; we *injure* a statue by breaking off its nose." Mr Cox remarks, that "it seems to be a law of the human constitution, that, when any of our faculties is pained, or disagreeably active, this propensity instantly comes into play; that is to say, there is immediately excited in the mind of the sufferer *an inclination to injure*—having for its object the infliker of the pain, if one exist, but not unfrequently vented, where the feeling is uncontrolled by the moral sentiments and intellectual powers, upon neutral individuals, or even inanimate objects." A foolish nurse beats the ground on which a heedless child has fallen, and thereby gratifies its feeling of revenge, or its desire to injure the object which occasioned the pain. I concur in Mr Cox's view, in so far that I regard the desire to injure as one form of manifestation of Destructiveness. One purpose of Destructiveness is the removal of objects that annoy us; and as pain is an annoyance, it naturally calls forth the disposition to destroy whatever occasions it. Morbid nervous irritability, by exposing us to suffer from every object or excitement that grates, however slightly, on our faculties, maintains Destructiveness in constant activity, and thus leads to that harshness of temper which generally characterizes this form of indisposition.

¹ See also an interesting discussion between Dr Weir and Mr Cox on the primitive function of this faculty in *The Phren. Journ.*, vol. xiii., p. 29; also p. 193.

Dr Vimont observes, that “ the faculty of Destructiveness has been bestowed on vertebrated animals as well as on man, as a species of auxiliary to aid their other faculties. The beaver and the squirrel cut and tear in pieces the bark, leaves, and branches of trees, to construct a cabin or nest.”

Combativeness, then, gives courage to resist aggression, and to meet danger unappalled. Destructiveness makes the onset perilous to the aggressor. Combativeness enables us to meet and overcome obstacles, and, having surmounted them, desires no more. Destructiveness prompts us to chastise or even exterminate the causes of them, so that they may never rise up again to create fresh annoyance. When the energy of this faculty is great, and Benevolence moderate, indifference to pain and destruction is the result. When too weak, Benevolence being strong, poignant distress is felt at the sight of death, and suffering of every kind.

The organ is large in the heads of cool and deliberate murderers. It is very large, and Benevolence small, in the skull of Bellingham, who murdered Mr Percival, the Prime Minister of England.¹ The temporal bones protrude very much on each side, in the situation of the organ of Destructiveness, and the frontal bone presents a receding surface at the organ of Benevolence, where the skulls of individuals remarkable for Benevolence generally rise into an elevation of an inch or more. A cast of Bellingham's skull may be inspected in the Phrenological Society's collection. The organ of Destructiveness is largely developed also in the skull of Gordon, who accompanied a poor half-fatuous pedlar boy, and, in the middle of a muir, beat out his brains with the heel of his clog, and robbed him of his pack, not worth twenty shillings.² The skull itself is in the Society's collection, and the bones protrude considerably on each side at the region in question. The protrusion in these instances arises from its excess over the neighbouring organs. If they had been equally large, there would have been great

¹ *Phrenological Transactions*, p. 339.

² *Id.* p. 327.

general breadth, but no particular elevation. Inexperienced observers often fall into great errors by looking for protrusion alone. The organ is large in Charles Rotherham, who pulled a stake from a hedge and beat out the brains of a poor woman on the highway, and robbed her of some very trifling articles. It is large also in the skulls of Hussey, Nisbet, and Lockey, who were executed for murder. It is very large, with deficient moral organs, in William Hare, who murdered sixteen human beings, for the sake of selling their dead bodies as subjects for dissection; and also in Gottfried, already mentioned on pages 142 and 144; Vitellius, page 146; and Linn, page 184. It, and the organ of Acquisitiveness, appear largely developed in the head of Heaman, executed at Edinburgh for piracy and murder; also in the head of Robert Dean, executed for murdering a child without any rational motive; and in the head of Mitchell, executed for murdering a young woman whom he had seduced. In the heads of David Haggart and Mary Macinnes, executed at Edinburgh, and of Booth, a poacher, executed at York, all for murders committed on the impulse of the moment, it appears considerably developed; while in them Combativeness also is large. In the skull of Tardy, an atrocious pirate, murderer, and suicide,¹ the development of Destructiveness is enormous. It is large also in the skull of Robert Burns.² The reader may contrast, at situation of this organ, the skulls represented on p. 144 of the present work.

The Phrenological Society possesses casts of the skulls of five Caribs, who are well known to be a ferocious tribe, and in all of them the organ of Destructiveness is decidedly large. On the other hand, Dr George Murray Paterson, surgeon in the Honourable East India Company's service, mentions, as the result of three thousand actual examinations, that the organ is small in the heads of Hindoos in general, who are known to be extremely tender in regard to

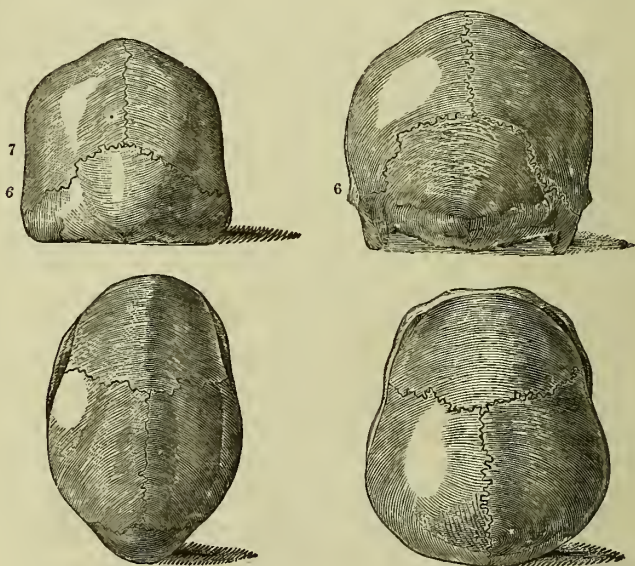
¹ *Phrenological Journal*, v. 365.

² *Id.* ix. 63.

animal life. In the skulls of thirty-seven Hindoos, twelve of which were presented to the Society by this gentleman, two by Dr J. S. Combe of Leith, and the others by Sir George Mackenzie, the development of the organ is in general decidedly less than in the crania of most Europeans. The organ is moderately developed in the Esquimaux and Cingalese, and they are strangers to cruelty and ferocity. It is very large in the Papuan Islanders, who are very prone to murder.¹ In the casts of three Swedish Laplanders pre-

ESQUIMAUX.

PAPUAN.



sented to the Society by Mr G. M. Schwartz of Stockholm, the organ is large ; and the temper of that people is very passionate.²

When excited by intoxication, the organ sometimes becomes ungovernable ; and hence occasionally arises the de-

¹ *Phrenological Journal*, ii. 264 ; vii. 638 ; viii. 299.

² *Id.* ix. 329 ; and Malte-Brun's *Universal Geography* (Edinburgh edition), vi. 466. As to the Destructiveness of the Scotch and Peruvians, see *The Phrenological Journal*, viii. 182, and ix. 160.

struction of glasses, mirrors, chairs, and other frangible objects, at the close of a feast. Hence also the temptation, often almost irresistible, experienced by some worthy citizens, when inebriated, to smash a lamp in their progress home. One gentleman assured me that the lamps have appeared to him, when in this state, twinkling on his path with a wicked and scornful gleam, and that he has frequently lifted his stick to punish their impertinence, when a remnant of reason restrained the meditated blow. In him Destructiveness was decidedly large, but, when sober, there was not a more excellent person.

This organ is larger in the male head than in the female ; and hence the male head is in general broader. The manifestations correspond ; for the propensity is less vigorously manifested by woman than by man.

In active life, a good endowment of the organ is an indispensable requisite to a proper discharge of the duties of several situations. What restrains the domination of the proud, but a knowledge, that, if they press too heavily even on the meanest, the feeling of resentment will start into activity to repel the insult ?—and resentment is the result of Destructiveness excited by wounded Self-esteem. In the case of officers conducting difficult and dangerous enterprises, what weight would the word of command carry, if every stubborn mind that received it knew, for certain, that the leader's dispositions were so soft, that he would inflict no punishment for disobedience ?—and punishment flows from Destructiveness directed by justice : the sword, accordingly, is carried before the supreme magistrate, and is an emblem of Destructiveness ready to fall on the contemners of the law.

These are not mere theoretical ideas, but views founded on actual observations. The Hindoo head is smaller than the European, and in particular Combativeness and Destructiveness are less in it in proportion to the other organs ; and we see millions of the former conquered by thousands of the latter. I have met with persons who were so soft that they scarcely struck fire, however hardly they were hit ; who

shrunk and retreated, yet agonized under every insult that was offered ; whose anger was so feeble, that its manifestations excited only a deeper scorn, and incited to farther outrages. Such individuals possessed small Combativeness and Destructiveness, and were carried through life on the shoulders of others, being incapable of fighting their own way amidst the turmoils of the world. Men who have an ample endowment of these organs, well regulated by superior sentiments, are not aware how much they owe to them. In civilized society, we pass years without a contest ; but it is because all know that the sentinels are at their post, and that attack is dangerous. A man in whom society recognises a deficiency of these powers, is not equally safe from aggression.

Destructiveness has been regarded by some phrenologists as communicating a more general energy to the mind. Endeavouring to trace analytically the manner in which it produces this effect, they have supposed it to give an impatient craving appetite for excitement ; a desire to vent the mind, as it were, on something ; a feeling which would be delighted with smashing and turmoil, or with any irregular commotion, rather than with the listlessness of repose : and hence a large development of it is held to be incompatible with that drowsiness of disposition which dreams life away in vapid inactivity, and which is contented to accept absence of suffering for enjoyment, and feels pain rather than pleasure in excitement. In this view, it is supposed to give a general stir and impetus to the mental faculties. The Hindoos, in whom the organ is small, are remarkable not only for great tenderness of animal life, but for deficiency in energy of character. In point of fact, however, the brain in general must be large and active, before great general power can be manifested ; and the real effect of Destructiveness appears to me to be to communicate ability to act with energy in certain situations in which, were that organ small, the individual would be completely paralyzed. In this view, it may add efficiency even to Benevolence, to which, at first sight, it appears di-

rectly opposed ; but it does so, not by increasing the positive amount of that feeling, which depends on its own organ, but by fitting the possessor to perform acts of real kindness, which require severity as their means.

As much ill-nature as wit is necessary for satire, and Destructiveness gives to it, to sarcasm, and to invective, their edge. It prompts also to the conception of images of terror, which become sublime or horrible, according as they are clothed with Ideality, or presented in naked deformity. In Lord Byron's works, it is strongly manifested. His appetite for fierce excitement,—the dark and dismal scenes of suffering and murder which generally abound in his stories,—together with the deadly venom and the fearful vehemence of his pen, when directed against his enemies,—could proceed from no source but the faculty in question. It leads a poet in general to imagine scenes of devastation and destruction, and to delight in the description of them. Byron's poem of *Darkness* exhibits the very form and pressure of Destructiveness.

The abuses of this faculty are easily recognised in society. There are persons who fly into a passion upon every trifling occurrence, and vent their rage on all who are subjected to their authority. This is a rude and vulgar manifestation of it. There are others, however, who avoid this form of misapplication, but who indulge in making severe remarks and cutting observations, altogether uncalled for, and introduced with no view but to give pain ; others issue their commands in harsh and angry terms, backed by loud threatenings and terrible gesticulations ; others are severe to excess on account of failures in duty, and little mindful of the happiness of those who live under their control : all these manifest abuses of Destructiveness.

When very active, this propensity produces a quick step, a drawing up of the body to the head, and a stamping or striking downwards ; also a wriggling of the head like the motion of that of a dog in the act of worrying. It gives a dark expression to the countenance, and harsh and discor-

dant tones to the voice. If, in a friendly converse with a person in whom the organ is large and Secretiveness small, one happens to touch on some irritating topic, in an instant the softness of Benevolence, and the courtesy of Love of Approbation, are gone, and the hoarse growl of Destructiveness indicates an approaching storm. I have seen it stayed, by referring the rising wrath to its source in this propensity, and calling on reflection to subdue it.

Cursing is an abuse of this faculty ; and I have observed among the lower orders, that some boys who attempted to practise this abominable vice through imitation, deeming it manly, could never infuse into their imprecations that force and expression which seemed to come quite naturally to others ;¹ and this incapacity for swearing proceeded from Destructiveness being moderately developed in proportion to the organs of the moral sentiments.

I have said that this faculty furnishes the threat which gives force to command. In the Bible, every variety of motive is held out to deter men from sin ; and I have noticed, that those individuals in whom Destructiveness predominates, have a natural tendency to dwell on the *threatenings* of the Gospel, while those in whom Benevolence, Hope, and Veneration are large, and Destructiveness deficient, hold out almost exclusively its promises—or, if they do mention its denunciations, they are so diluted by the softness of their own minds, that more than half their terrors are abated. Preachers of the first class frequently mistake the fervours of Destructiveness for the inspirations of moral eloquence ; and while, by their vehemence, they gratify men of sterner natures, they harrow up amiable and susceptible minds, and inflict on them great uneasiness. Preachers of the latter class, on the other hand, are acceptable to persons naturally mild in disposition, but to others they appear insipid. Love is a higher motive than fear, and where the mind can be led by

¹ *Stephen.* I would rather than forty shillings I could swear as well as that gentleman. “ Body of Cæsar—St George—and the foot of Pharaoh.”
No. I ha’n’t the right grace. *Every Man in his Humour.*

the higher feeling, it ought always to be preferred ; but many are open to the influence of terror, who are not alive to Hope and Veneration, and hence the use of both is necessary. It is only inordinate dwelling upon the one to the exclusion of the other that is reprehensible. The higher the cultivation of the audience, the less is fear requisite to make an impression. Fear is only aversion to personal suffering, and is totally different from the love of good.

The pleasure which even humane and cultivated individuals experience in witnessing an execution, is inexplicable on any principle, except that of the existence of such a faculty as this, aided no doubt by the love of excitement, arising from Wonder and some other faculties. "We have," says Mr Scott, in an admirable essay on this propensity, "too much humanity ourselves to put a man to death. But, if a man is to be killed, we have no objection to witness the fact, or, if I may be allowed to say so, to enjoy the pleasure of seeing it performed."—Were Destructiveness wanting, and Benevolence favourably developed, in persons present at an execution, they would be horrified, not delighted, by such a scene."¹ A blind man in Edinburgh attended the public executions. His Destructiveness was probably gratified by descriptions given to him by those who saw, and by their emotions when excited by the scene.

In children, and even in adults, Destructiveness frequently vents itself in destroying inanimate objects. The people deface mile-posts, bridges, statues, and public buildings, wherever they can get access to them ; and "no object of art, or even of utility," says a late writer, "is safe from their depredations." He ascribes this tendency to "the spirit of pure mischief,"—a correct designation for unguided Destructiveness. The statute 3d Geo. IV. chap. 71, which ordains, "that, if any person or persons shall wantonly and cruelly beat, abuse, or ill-treat, any horse, mare, gelding," &c. he shall pay certain penalties to the king, is clearly directed against the abuses of this propensity, and, of course, presup-

¹ *Phren. Trans.* p. 147. See also *Phren. Journ.* ix. 502.

poses its existence. The adjectives *severe, harsh, angry, cruel, fierce, ferocious, savage, brutal, barbarous, atrocious*, indicate states of mind all originating from it.

Metaphysical authors in general do not treat of any power resembling this propensity, considered as a spontaneously active power. Accustomed to reflect in the closet more than to observe actions, they were not likely to discover it. At the same time, it is surprising that the contemplation of the pages of history did not suggest the existence of a tendency of this kind to their minds. Caligula is represented as cutting out the tongues of his victims,—delivering them to be devoured by wild beasts,—forcing individuals to assist in executing their relations,—torturing and putting to the rack unhappy wretches as an amusement to his own ferocious spirit, and finally expressing a wish that the Roman people had but one head, that he might cut it off by one blow. Turning our eyes to Nero, we discover him indulging in equal atrocities,—causing Britannica to be poisoned,—murdering his own mother,—setting fire to Rome in four quarters at once, and ascending a tower to enjoy the spectacle of the conflagration. In modern times, we are presented with the horrors of the Sicilian Vespers, the carnage of St Bartholomew's, the cruelties of the Spaniards in America, the burning of witches, and the massacres of the French revolution. These actions are inexplicable, on the supposition that no propensity like Destructiveness exists: If the metaphysicians had applied their systems to human conduct, they would have discovered that they contained no principle capable of accounting for the atrocities alluded to. In the ancient busts of Nero, the organ of Destructiveness is represented as enormously large.

The organ is liable to excitement by disease, and then the propensity is manifested with irresistible vehemence. The author of *Sketches in Bedlam* describes the case of Pat Walsh, a ferocious maniac who had been deranged altogether about twelve years, and had, it is said, uniformly evinced a character of desperation, vengeance, and sanguinary cruelty, scarcely

conceivable even in madness. Notwithstanding every precaution that was taken, he had killed three persons during his confinement. "His propensity to mischief, malice, and personal abuse, is as incessant as his taste for bloodshed and slaughter. He has contrived, notwithstanding his restriction of hands and feet, to break about seventy panes of glass within the last two years, in the dining-room windows, although guarded on the inside by a strong iron-wire lattice-work. This amusement he contrived to effect by standing on a form placed at some distance from the windows, and, taking the bowl of his wooden spoon in his mouth, he poked the handle through the meshes of the wire-work, and thus broke the pane." As this man is said to be confined in an iron cincture that surrounds his waist, with strong handcuffs attached to it, I infer that he is the same whose head I examined in Bedlam in 1824, and in whom the organs of Combativeness and Destructiveness were inordinately large.

When these two organs are very much developed, and the moral and intellectual organs very deficient, there is an innate disposition to mischief and violence which renders the individual dangerous to society. In visiting the Richmond Lunatic Asylum in Dublin, in 1829, a man was presented to me by Dr Crawford, substitute-physician, concerning whom I made the following remarks :

"This is the worst head I ever saw. The combination is worse than Hare's. Combativeness and Destructiveness are fearfully large, and the moral organs altogether very deficient : Benevolence is the best developed of them, but it is miserably small compared with the organs of Combativeness and Destructiveness. I am surprised that this man was not executed before he became insane."

Dr Crawford had previously written down, and then exhibited, the following observations :

"Patient E. S., aged 34. Ten years since first admission.

Total want of moral feeling and principle ; great depravity of character, leading to the indulgence of every vice, and to the commission even of *crime*. Considerable intelligence, ingenuity, and plausi-

bility ; a scourge to his family from childhood ; turned out of the army as an incorrigible villain ; attempted the life of a soldier ; repeatedly flogged ; has since attempted to poison his father.”

In preparing a report of this and other cases for *The Phrenological Journal* (vol. vi. p. 80.), I sent the proof-sheet to Dr Crawford for revisal, which he returned along with a letter to the following effect :—“ I have a few remarks to make on the lunatic lettered *E. S.* You observe in your own notes, ‘I am surprised that he was not executed before he became insane.’ This would lead to the supposition, that he had been afflicted with some form of insanity in addition to a naturally depraved character. Such, however, is by no means the case : he never was different from what he now is ; he has never evinced the slightest mental incoherence on any one point, nor any kind of hallucination. It is one of those cases where there is great difficulty in drawing the line between extreme moral depravity and *insanity*, and in deciding at what *point* an individual should cease to be considered as a responsible moral agent, and amenable to the laws. The governors and medical gentlemen of the Asylum have often had doubts whether they were justified in keeping *E. S.* as a *lunatic*, thinking him a more fit subject for a bridewell. He appears, however, so totally callous with regard to every moral principle and feeling—so thoroughly unconscious of ever having done any thing wrong—so completely destitute of all sense of shame or remorse when reprov'd for his vices or crimes—and has proved himself so utterly incorrigible throughout life—that it is almost certain that any jury before whom he might be brought would satisfy their doubts by returning him *insane*, which in such a case is the most humane line to pursue. He was dismissed several times from the Asylum, and sent there the last time for attempting to poison his father, and it seems fit he should be kept there for life as a *moral lunatic* ; but there has never been the least symptom of *diseased* action of the brain, which is the general concomitant of what is usually understood as *insanity*. This I consider might with propriety be made the foundation for a division of lunatics into two great classes : those who were in-

sane from *original constitution*, and never were otherwise, and those who had been *insane* at some period of life from diseased action of the brain, either permanent or intermittent. —There would be room for a few additional notes to the case of E. S., explanatory of what I have said, if you think fit.—*Dublin, 20th July 1829.*”

Dr Gall cites a variety of cases of diseased manifestations of this propensity, which had fallen under his own observation, and quotes several others highly illustrative from Pinel. I select one of these, in which the organ of Destructiveness seems to have been affected singly, the other organs remaining entire. The patient, during periodical fits of insanity, was seized with an “uncontrollable fury, which inspired him with an irresistible propensity to seize an instrument or offensive weapon, and to knock on the head the first person who presented himself to his view. He experienced a sort of internal combat between this ferocious impulse to destroy, and the profound horror which rose in his mind at the very idea of such a crime. There was no mark of wandering of memory, imagination, or judgment. He avowed to me, during his strict seclusion, that his propensity to commit murder was absolutely forced and involuntary, and that his wife, whom he tenderly loved, had nearly become his victim, he having scarcely had time to bid her flee to avoid his fury. All his lucid intervals were marked by melancholy reflections and expressions of remorse; and so great did his disgust of life become, that he had several times attempted an act of suicide” (this is common in the excess of Destructiveness) “to bring it to a close. ‘What reason have I,’ said he, ‘to cut the throat of the superintendent of the hospital, who treats us with so much kindness? and yet in my moments of fury I am tempted to rush upon him, as well as others, and plunge a dagger in his bosom. It is this unhappy and irresistible propensity which reduces me to despair, and makes me attempt my own life.’”¹

¹ *Sur l'Aliénation Mentale*, deuxième édition, p. 102 et 103, sect. 117. See other cases of the same kind in Gall *Sur les Fonctions du Cerveau*, i.

Individuals who occasionally commit murder, or set fire to property, without any rational motive, sometimes ascribe their actions to the temptation of the devil, asserting that he whispered into their ears, "Kill him, kill him," and never ceased to repeat the exhortation till they had complied with it. Diseased activity of this organ, filling the mind habitually with a desire to destroy, probably gives rise to such an impression. In ages when belief in witchcraft was common among religious persons, impulses of the propensities, arising from spontaneous activity of the organs, appear to have been frequently mistaken for suggestions of evil spirits.

One form in which disease of this organ sometimes appears, requires particular notice ; it is when it prompts females of the most unquestionable reputation to child-murder. I cite the following from the public newspapers of May 1822. "On Sunday morning, about half-past ten o'clock, a most horrid murder, of unparalleled inhumanity, was perpetrated on the body of a fine female infant, about eight months old, named Sarah Mountfort, by her own mother, wife of Mr Mountfort, weaver, No. 1 Virginia Row, Bethnal Green. The husband, who is a Methodist, had gone to chapel, leaving his wife to clean, and send to the Sunday school, her young family. Having done this, it appeared she cleaned herself and her infant, when, overcome by some extraordinary aberration of intellect, she cut off the head of the child with a razor, and, besmeared with the blood, immediately told the persons in the house of the bloody deed, desiring to be given into custody, as she wanted to be hanged. From the conduct of the wretched woman after the transaction, no doubt can be entertained of her insanity. Mrs Mountfort underwent a short examina-

399, 417-423, 447-457 ; ii. 470 ; iii. 174 ; iv. 99-110, 170 ;—Spurzheim's *Phrenology*, section on Destructiveness ;—Dr A. Combe's *Observations on Mental Derangement*, p. 258 ; Simpson's *Necessity of Popular Education*, Appendix, No. II. ;—and *Phrenological Journal*, viii. 144, 189 ; xii. 102. 255.

tion on Monday, and was committed for trial. A coroner's inquest has been held, which returned a verdict of wilful murder against the wretched woman. The distress of the family is extreme. The unhappy husband and two of the eldest daughters are seen running about the streets in a state of distraction. One of the latter has been deprived of utterance since the horrid transaction." This woman is said to have been "overcome by some extraordinary aberration of intellect;" a mode of expression which may be forgiven in the writer of a newspaper paragraph, although, viewed philosophically, it is absurd. The intellectual powers enumerated by the metaphysicians, such as Perception, Conception, Memory, Imagination, and Judgment, furnish no propensities to action, which, being deranged, could produce such a piece of barbarity. Derangement of intellect causes the patient to reason incorrectly, and speak incoherently; but if his *feelings* be sound, he is not mischievous. Here, however, the unhappy woman seems to have been inspired with a blind and irresistible impulse to kill, arising from disease of Destructiveness.

These details are exceedingly painful, and the reader may question the taste which permits their insertion; but great ignorance prevails in the public mind on this subject, and the records of our criminal courts still shew cases of unhappy persons condemned to the gallows, who, if Phrenology were known to the judges and juries, would be consigned to lunatic asylums.¹

As already noticed, the organ is common to man and carnivorous animals.² Dr Gall, however, remarks, that "the organ is not, in all carnivorous animals, situated with rigor-

¹ Mr M. B. Sampson has published an instructive work on this subject, entitled *Criminal Jurisprudence considered in Relation to Mental Organization*.

² Mr Robert Cox maintains that herbivorous animals are not wholly destitute of Destructiveness. See *Phren. Journ.*, ix. 406. It is certainly not easy to deny, that the bull and ram sometimes display the faculty in a high degree.

ous exactness above the external opening of the ear. Among some species of birds—for example, in the stork, the cormorant, the heron, the gull, &c.—the external opening of the ear is considerably removed back, and the organ of the propensity to kill is placed immediately behind the orbits, forming a large prominence upon each side, the size of which is found to bear an uniform proportion to the degree in which the animal manifests the propensity to kill. In comparing the crania of carnivorous birds with the skulls of those which can live indifferently upon either animals or vegetables, this prominence is found to be less conspicuous in the latter—in the duck, for example, and in the different species of thrushes; and it becomes less and less prominent, in proportion as the birds exhibit a more distinct preference for vegetables, such as the swan, the goose,” &c. The differences are illustrated by plates in Dr Gall’s work. If the brain of a sheep and that of a dog be compared, a great deficiency will be discovered in the former at Destructiveness.

In 1827, Dr Joseph Vimont presented to the Royal Institute of France, a memoir on Comparative Phrenology, in which he brings forward a vast collection of most interesting facts, in regard to the dispositions and forms of the brain in the lower animals. In regard to Destructiveness he says: “All animals which live on flesh, or which have a propensity for destroying, have a particular part of the cranium whose development corresponds with that of this faculty. Thus all the *feræ*,¹ without exception, have the squamous portion of the temporal bone² enlarged in a perceptible manner. We may cite as examples, the tiger, the cat, the fox, the martin, the weasel, the ermine.

“In the carnivorous birds properly so called, the portion of the cranium situated behind the orbit, corresponds with the organ of the carnivorous instinct, and presents a remarkable development. In the omnivorous birds, the enlargement is

¹ Beasts of prey.

² Which covers Destructiveness.

a little more posterior.” “He remarks farther, in his Comparative Phrenology, that when Gall and Spurzheim cite, in support of their observations, carnivorous and granivorous birds as examples of the presence of the propensity to destroy in the one case, and the absence of it in the other, they commit a double error. Many granivorous birds are very fond of animal substances. I have seen fowls run with avidity to flesh, even that of a young chicken which had been cut in pieces. I have seen the same birds quit grain in order to eat shell-fish which had been thrown to them. It is quite certain that there exists a great difference between the skulls and brains of birds which live exclusively on animal substances, and those whose principal food is vegetables, a difference which Dr Gall has not correctly indicated, as I shall demonstrate ; but, in my opinion, it is to be ascribed to the difference in the activity of the tendency to destroy in the different species, and not to its total absence in one of them.”

The organ is regarded as established.

In a subsequent chapter, I shall present figures from Dr Vimont's work shewing, according to his views, the situation of the organs in several of the lower animals.

Various additional cases and remarks on this propensity and organ, will be found in the *Phrenological Journal*, vol. xiv., p. 55, and in vol. xv., p. 56, 95, 257, 357.

ALIMENTIVENESS, OR ORGAN OF THE APPETITE FOR FOOD.

It early occurred to Drs Gall and Spurzheim, that the appetite for food is an instinct not referable to any of the recognised faculties of the mind, and they therefore were disposed to view it as a primitive power, having a separate organ ; but they did not discover its situation.

In the sheep, the olfactory nerves, which are very large, are perceived to originate from two cerebral convolutions, lying at the base of the middle lobe of the brain, adjoining

and immediately below the situation occupied by the organ of Destructiveness in carnivorous animals. The sheep is guided in the selection of its food by the sense of smell; and the inference early occurred to me, that these parts might be the organs of the instinct which prompts it to take nourishment. Corresponding convolutions occur in the human brain, but the functions of them were not ascertained, owing to their situation presenting obstacles to the determination of their size during life. The conjecture, however, seemed to be plausible, that they might serve a similar purpose to that which they were supposed to perform in the sheep.

This subject attracted the notice of that ingenious phrenologist Dr Hoppe of Copenhagen, and he treated of it in two valuable communications, published in *The Phrenological Journal*, vol. ii. pp. 70, 484. (See also vol. iv. p. 308.) He is of opinion, that, besides the nerves of the stomach and palate, of which alone he conceives the sensations of hunger and thirst to be affections, there must be also an organ in the brains of animals for the instinct of *nutrition* (taking nourishment for the preservation of life), which incites them to the sensual enjoyments of the palate, and the activity of which is *independent* of hunger and thirst. "How," says he, December 1823, "should the mere sense of hunger, more than any other disagreeable or painful sensation, make the animal desire food, the necessity of such not being known to him by experience? This could only be effected by *instinct*; because either an instinct, *i. e.* the immediate impulse of an organ, or else experience and reflection, are the causes of all actions.

"We observe, that the chicken is no sooner out of the egg, than it picks the grain that lies on the ground, and the new-born babe sucks the nipple. Is this to be explained without the supposition of an organ analogous to that which makes the duckling immediately plunge into the water, or makes the kitten bite the first mouse it meets with?

"Neither am I able otherwise to conceive how the new-born animal can discriminate what is useful for its nutrition; that, for instance, the chicken never mistakes gravel for

grain, and that the wild beasts always avoid poisonous plants without ever tasting them.

“When the child, even enjoying perfect health, sucks till the stomach is filled, in a literal sense of the word, it surely feels no hunger or thirst; yet, if laid to the breast, it will continue sucking, even sometimes having thrown off the last draught from overfilling.”

“If nothing but hunger and thirst impelled man to take food, he would, when satiated, have no appetite for meat and drink; yet we every day observe people that cannot resist the temptation of surfeiting themselves both with meat and drink, though they know it to be noxious, and others again that never are tempted to gluttony.”

Dr Hoppe adds several other reasons in support of an organ of the instinct of nutrition, and sums up his views in the following words: “According to my opinion, *hunger* and *thirst* must be discriminated from the desire of food which we call *appetite*; for those I consider as only affections of the stomachical and palatic nerves, caused by the defect of necessary supply; but appetite as an activity of a fundamental animal instinct, which has in the brain an organ analogous to the rest of the organs. Yet there is a very intimate connexion between these; thus, nothing can more effectually rouse appetite than hunger.”

In lecturing on Phrenology, I had for some years pointed out the part of the brain above alluded to as the probable seat of this faculty; and Dr Hoppe, without being aware of this circumstance, or the reasons on which the conjecture was founded, arrived at a similar conclusion with respect to a neighbouring part of the base of the brain. He proceeded even so far as to point out an external indication of the size of the organ. “Regarding the organ for taking nourishment,” says he, 28th December 1824, “I have been led to think, since I wrote last, that the place where its different degrees of development are manifested in the living body, is in the *fossa zygomatica*, exactly under the organ of *Acquisitiveness*, and before that of *Destructiveness*. Before I had thought at all of Phrenology, I was struck with the remark-

able breadth of the face or head of a friend of mine, caused, not by prominent cheek-bones, as in some varieties of mankind, but more toward the ears, by the great convexity of the zygomatic arch. Knowing that this individual was exceedingly fond of good living, and that, even in spite of a very powerful intellect, and propensities moderate in almost every other respect, he was prone to indulge too freely in the joys of the table, I afterwards thought that this form of the head, and tendency of the mind, might bear a nearer relation to each other than had at first occurred to me ; and in some other persons, notoriously fond of good eating and drinking, I found a confirmation of my suppositions. This prominence of the bony arch, I think, must be an absolute consequence of the part of the cranium lying under the temporal muscle being pushed outwards, and diminishing, in that direction, the space of the *fossa*. Besides this greater convexity of the arch, the part also of the skull situated immediately above it, under the organ of Acquisitiveness, will in this case be observed to be more full and protruding. The breadth of head produced in this way can by no means be mistaken for a mere prominent cheek-bone, nor for the organs of Acquisitiveness, or Destructiveness, or Constructiveness, situated higher, behind, and in front of it. Having found the said parts in some persons much compressed, in others less so, and, as I think, the disposition of mind always proportionate to it, and not yet having met with any exceptions, I cannot but hold my opinion to be true."

Dr Hoppe considers that the organ of Alimentiveness is likewise the organ of the sense of taste. "That the sensation of taste," says he, "only passes through the nerves, and is perceived in a part of the brain, is a supposition, I think, sufficiently proved. Now, it appears to me as highly probable, and by analogy agreeing with other experiences, that it is one and the same organ which *tastes* (viz. distinguishes and enjoys), and *incites* us to taste, or, in other terms, to take food and drink. This, according to my opinion, is the organ of appetite for food, and consequently it may also

be named the organ of Taste (*gustus*), and stands in the same relation to this one of the external senses as the organ of Tune to the sense of Hearing.”

Dr Crook of London mentions that several years before the publication of Dr Hoppe's papers, he himself had arrived at similar conclusions with respect to this faculty, and the position of its organ. “Three persons,” says he, “with whom I had become acquainted in the year 1819, first led me to suspect that a portion of the brain situated near the front of the ear (next to Destructiveness), was connected with the pleasures of the festive board. From that time to the end of 1822, above a thousand observations were made ; as they tended to confirm this view, several phrenological friends were informed of the result. From 1823, I no longer doubted that the anterior portion of the middle lobe was a distinct organ, and that its primary use was the discrimination and enjoyment of meats and drink. It was difficult, however, to hit the fundamental power. The situation of the organ, under the zygomatic process and the temporal muscle, frequently precluded the possibility of accurate observation. But, notwithstanding, well marked cases, both of a positive and a negative kind, were investigated. These conclusions were embodied, and read to the Phrenological Society of London, on the 8th of April 1825. Two months before, though it was not known in London, a letter had been received in Edinburgh from Dr Hoppe of Copenhagen, giving the same portions of the brain to the sensations of hunger and thirst. The coincidence was felt to be remarkable, and by myself particularly so, as I had, in 1821, conceived a similar idea, but discarded it upon considering the dependence of these feelings upon the stomach and tongue.”

Dr Crook, misled, no doubt, by the erroneous title (“On the Conjectural Organs of Hunger and Thirst”) prefixed to Dr Hoppe's communications in *The Phrenological Journal*, errs in supposing him to consider those sensations as connected with the organ in question. On the contrary, he and

Dr Crook concur in rejecting this idea, and in there locating the sense of taste.

The external part to which Dr Hoppe alludes, was formerly included by Dr Spurzheim within the limits of Destructiveness ; but in Dr Gall's busts and plates, that organ was not carried so far forward, and the function of the part in question was marked by Dr Gall as unascertained. Dr Spurzheim latterly coincided in the soundness of the views of Dr Hoppe, in so far as to regard the organ as that of "the propensity or instinct to feed;" but he dissented from Dr Hoppe's opinion that this propensity discriminates what is useful for nutrition, and likewise from the notion that it produces delicacy and nicety of taste. "All," says he, "concur to prove that the above-mentioned portion of the brain is the organ of the instinctive part of nutrition, or of the desire to feed. It exists not only in carnivorous but also in herbivorous animals. The goose, turkey, ostrich, kangaroo, beaver, horse, &c. have a middle lobe as well as the duck, eagle, pelican, tiger, lion, dog, &c. The desire to feed is common to all animals, and the carnivorous animals require the organ of Destructiveness in addition to that of the instinct to feed." He remarks as a corroborative circumstance, that the anterior convolutions of the middle lobes are developed from the earliest age, sooner than many other parts, and both in man and in the lower animals are proportionally larger in the young than in adults. "This propensity," he adds, "is particularly assisted by the smell, and the olfactory nerve is in all animals in the most intimate communication with the middle lobes; so much so, that, in the ox, sheep, horse, dog, fox, hare, rabbit, &c. the internal part of the middle lobes seems to be almost a mere continuation of the olfactory nerve. In man also, the external and greater root of the olfactory nerve is in connection with the anterior convolutions of the middle lobes. Farther, the middle lobes are in particular communication with the nervous bundles, which constitute the anterior lobes, and the anterior external portion of the crura—

in other words, the organs of the intellectual faculties; and the propensity to feed puts into action many of the perceptive powers, and the voluntary motion of many parts, before the food is transmitted to the stomach for digestion."

This faculty is termed Gustativeness by Dr Crook; but Dr Spurzheim confines the sense of taste to the gustatory nerve, regarding the propensity to feed as the whole amount of the function. "This view," says Dr Crook, "approximates so closely to my own, that it is only in very extraordinary cases that the manifestations of the one can be clearly distinguished from those of the other; but one decided case I met with in 1827, in which no part of the *cerebrum* existed, yet during the eight days' life of this imperfectly formed creature, there had been incessant craving for food, which it took in very considerable quantity, but without any apparent discrimination as to taste or flavour. To admit the instinct to eat to be the primitive power, would subvert the first principle of physiology,—the inseparable connection between organ and function."

If this case was really as here reported, it would unquestionably form a serious obstacle to the admission of the view taken by Dr Spurzheim; but so many facts of an opposite tendency have been observed, that it is not unreasonable to suspect, that, in a case so anomalous, the organ may have been confounded with some other part at the base of the skull.

Dr Vimont treats largely of this faculty, and regards it as established. The olfactory nerve in man, he says, is composed of two nervous portions; one deeply hid in the brain, and springing from three very distinct roots (Plate 78, fig. 1). Two of these roots take a direction outwards towards the fissure of Sylvius; and the other, which takes a contrary direction, is covered by the optic nerve. These three roots, after advancing forward, join into one, and form the olfactory nerve, which terminates in a slight pulpy swelling (*renflement*) of an oval form, from which soft filaments proceed through the openings of the ethmoidal bone to the mucous membrane of the nose (vol. ii. p. 139). The external of

these roots loses itself in the fibres of the cerebral convolution which manifests the choice of aliments. This explains the effects of smells in exciting the appetite. The organ in abuse, says he, gives rise to gluttony and drunkenness ; and also to the love of smoking.

“ Every body,” says Dr Vimont, “ knows how generally children are chargeable with being gluttons. Desirous to satisfy myself how far this tendency, in them so unquestionable, coincided with the development of the organ of Alimentiveness, I examined forty-eight heads of young children, from five to twelve years of age ; and I can affirm that in all of them, without exception, this region was very apparent. I possess in my collection eleven skulls of children from two to seven years of age ; in all, the part of the skull over the organ of Alimentiveness is marked in a striking manner. As might be expected, however, the development is not equally great in them all.”—*Traité de Phrenologie*, tom. iii. p. 174.

When in Philadelphia in February 1839, Dr Morton shewed me two skulls in his collection, illustrative of this organ. The one was the skull of a Dutch officer who had served in Java. Its size was large, and the anterior region was very favourably developed, the coronal region was broad, although only moderately high ; the organs of Love of Approbation and of several of the propensities were large, and Alimentiveness was very largely developed. “ I received,” says Dr Morton, “ the following memorandum regarding this skull from Dr Doornick, late physician to the hospital in Batavia in the Island of Java. Dr Doornick twice visited Philadelphia, and died within a few months in New Orleans.” “ It was the skull of a Dutchman,” says he, “ whom I knew well, and who was born in Utrecht of a noble family. He was several years a captain in the army at Batavia, where he died in the prime of life. He was remarkably handsome, not deficient in talent, and of an amiable disposition, but wholly devoted to conviviality and dissipation, which finally destroyed his fine constitution and his life.” The other skull is

that of a cannibal named Peirce. In it the organs of Destructiveness and Alimentiveness are very largely developed, and the moral organs, particularly those of Conscientiousness and Cautiousness, are deficient. Dr Morton furnished me with the following account of Peirce, contained in a letter addressed to him by William Cobb Hurry, Esq. of Calcutta, by whom the skull was sent to Philadelphia. "With respect to the cannibal Peirce," says Mr Hurry, "all that is known of him is, that he was a native of Scotland or the north of Ireland, and a seaman. He was a convict in Van Dieman's Land, and escaped with others to the woods. Hunger compelled them to prey upon each other, until only Peirce and another were left. A romantic tale might be made from Peirce's own narrative of the feelings with which these two men watched each other till, overcome with fatigue, the last of the band fell a victim. Peirce was relieved by a party who fell in with him, and the cannibalism of which he had been guilty, being attributed to necessity, was not punished. From that time his propensities acquired their full development, and he succeeded repeatedly in persuading his fellow prisoners to escape with him for the sole purpose of killing them and devouring their flesh. He used to return secretly to the depot, and persuade a fresh victim, assuring him that he had been sent by others who were waiting him in the woods. He was at last caught; and being asked if he knew where one of his companions was, deliberately drew an arm out of his jacket, and threw it to the soldiers. Mr Crockett, from whom I had this account, and who gave me the skull, is the Colonial Surgeon, and attended Peirce in the hospital both before and subsequently to his crimes. He stated to me his conviction that Peirce was insane; which, however, did not prevent him from being hanged." It is probable that the privations which Peirce endured when he first escaped, may have induced diseased action in his brain, and that the organs may have continued in this state during the time when he committed the latter enormities. The organs of Alimentive-

ness and Destructiveness are predominantly large, and seem to have taken the lead in his insane condition.

An interesting case of disease of this organ, observed in the Royal Infirmary of Edinburgh, is recorded in *The Phrenological Journal*, vol. vii. p. 64. The patient had awakened at five o'clock on the morning of the day of his admission, "craving for food," as his sister related; and had been "eating continually" from that time till sent to the Infirmary about noon. His stomach was greatly distended by the quantity of food he had swallowed, yet he still complained that he was dying of hunger. At this time, and till next morning, he was delirious, but subsequently he became dull. Twenty-four hours after his admission, when roused by loud or repeated questions, he answered imperfectly, but to the point, and frequently muttered "hunger, hunger, hunger, it's hunger." He complained of pain at the exact locality of the organ of Alimentiveness, and there alone. The reporter of this case has appended to it his observations in regard to the points to be attended to in estimating the size of the organ; which, from its situation, is a matter of difficulty. "It is nearly parallel," says he, "to the zygomatic arch, which is often rendered prominent by it when large; but, the distance of the arch from the proper parietes of the skull being variable, this is not a certain guide. The temporal muscle opposes an obstacle, but may itself be used as a means of removing the difficulty in part. When the organ is larger than its neighbours, the lower part of the temporal muscle is pushed outwards, making it appear as if lying on a pyramidal instead of a vertical-sided cranium, the base of the pyramid being downwards; when small, the reverse occurs. If the organ be very large, it will affect the socket of the eye-ball, pushing the latter up and forward, not as in Language down and forward: when both are large (at least in one instance I have seen this), the eye looks imprisoned by a fulness extending almost around it."

In the *Journal de la Société Phrénologique de Paris*, vol. ii. Number 5, the case of a woman call Denise, detailed in the

Annales de la Médecine Physiologique (Oct. 1832), is taken notice of, as furnishing a curious example of insatiable appetite for food. In infancy she exhausted the milk of all her nurses, and ate four times more than other children of the same age. At school she devoured the bread of all the scholars; and in the Salpêtrière it was found impossible to satisfy her habitual appetite with less than eight or ten pounds of bread daily. Nevertheless she there experienced, two or three times a month, great attacks of hunger (*grandes faims*), during which she devoured twenty-four pounds of bread. If, during these fits, any obstacle was opposed to the gratification of her imperious desire, she became so furious, that she used to bite her clothes, and even hands, and did not recover her reason till hunger was completely satisfied. Being one day in the kitchen of a rich family, when a dinner-party was expected, *she devoured, in a very few minutes, the soup intended for twenty guests, along with twelve pounds of bread!* On another occasion, she drank all the coffee prepared for SEVENTY-FIVE of her companions in the Salpêtrière! Her skull is small; the region of the propensities predominates; and the organ of Alimentiveness is largely developed. Many similar instances of voracity are recorded by medical writers.¹

The same *Journal* (October 1835) contains an interesting paper by MM. Ombros and Théodore Pentelithe, "On Alimentiveness, or the Sense of Hunger and Thirst, as a primitive cerebral Faculty." These gentlemen, besides referring the sense of Taste to the organ under discussion, maintain, with much reason, that it is the cerebral seat also of hunger and thirst. That these sensations are in reality cerebral phenomena, is evident from various conclusive facts and experiments;² and the identity of the organ of the

¹ See *Phil. Trans.* vol. xliii. p. 366; Good's *Study of Medicine*, 2d edit. vol. i. p. 111, 112; Elliotson's *Blumenbach*, 4th edit. p. 304; and Dr A. Combe's *Physiology of Digestion considered with Relation to the Principles of Dietetics*, p. 32.

² See Dr A. Combe's *Physiology of Digestion*, chap. ii., and his *Observations on Mental Derangement*, p. 246.

propensity to feed with that of the sensation of hunger, appears from the circumstance, that hunger and the desire to eat always go together—just as courage is the concomitant of the propensity to oppose, and anger is universally attended by the propensity to inflict suffering. MM. Ombros and Pentelithe mention several cases of voracity, where pain or heat was felt at the temples, or disease of the organ of Alimentiveness was found after death. In other cases they observed a great and small development of it in combination with much and little fondness for eating. They conceive that drunkenness and the love of smoking tobacco arise from this faculty, and that hydrophobia and various other diseases are affections of the organ. The latter conclusion receives countenance from a case reported by M. David Richard, in the same number of the *Journal de la Société Phrénologique*, p. 490.

Several years ago, Dr Caldwell published in *The Transylvania Journal of Medicine* (for July, August, and September 1832) the opinion, that the passion for intoxicating liquors arises from derangement of Alimentiveness. Instead of mere remonstrance with the drunkard, therefore, he recommends “seclusion and tranquillity, bleeding, puking, purging, cold water, and low diet,” as the means of cure. These, he states, have been found successful by the physician of the Kentucky Lunatic Asylum. Dr Caldwell’s view is confirmed by the fifth case published by MM. Ombros and Pentelithe—that of an old and confirmed drunkard, in whose brain they found a distinct erosion of the left organ of Alimentiveness. There are cases of morbid voracity on record, where *post mortem* examination has shewn disease in the brain, and none in the stomach.¹

On the whole, there seem to be very strong grounds for holding that the part of the brain above described is the organ of the propensity to eat and drink, of the sensations of hunger and thirst, and perhaps also of the sense of taste. “This organ,” however, said Dr Spurzheim, “though indi-

¹ See Monro’s *Morbid Anatomy of the Gullet*, &c., 2d edit., p. 271.

cated by reason and comparative anatomy, is merely probable, and can be confirmed or rejected like every other, according to direct observations alone, in comparing cerebral development in relation to the special propensity. I possess many facts in confirmation." I regard the organ as now ascertained.¹

ORGAN OF THE LOVE OF LIFE.

IN conversing with a variety of individuals about their mental feelings, no fact has more forcibly arrested my attention, than the difference which exists in the love of life. It will be assumed by many, that this is an universal desire, glowing with equal intensity in all; but the fact is otherwise. All possess the feeling, but its degrees vary much more than is generally understood. Some individuals desire life so intensely, that they view death as the greatest calamity; they declare, that, rather than part with existence, they would submit to live in endless misery: the bare idea of annihilation is unsupportable to their imaginations; and they found an argument for immortality on the position, that God cannot be guilty of the injustice of making them conscious of so great a boon as life, and subsequently depriving them of it:—to have lived, according to them, gives an indefeasible title to continue to live for ever.

" Could'st thou persuade me the next life could fail
Our ardent wishes, how should I pour out
My bleeding heart in anguish, new as deep!
Oh! with what thoughts thy hope, and my despair,
Abhorr'd annihilation, blasts the soul,
And wide extends the bounds of human wo!"

Young's Night Thoughts, B. vii. v. 645.

¹ See *Phren. Journal*, vol. x. p. 249, and 545. The paper on page 249 is an able view of the state of knowledge respecting this organ by Mr Robert Cox, and is well worthy of perusal. See also in vol. x. p. 158, a case reported in which a morbid affection of the organ of Alimentiveness, coincident with Inflammation of the Stomach, was relieved by an application of leeches behind the mastoid process, and afterwards to the temporal region. Also, vol. xiii. p. 260. In vol. xv. p. 358, 359, 360, 367, cases are reported in which this organ was excited by mesmerism.

Sir Walter Scott draws a vivid picture of intense love of life in Morris the exciseman, when on the point of being drowned by order of Helen Macgregor. "He prayed but for life; for life, he would give all he had in the world: it was but life he asked; life, if it were to be prolonged under tortures and privations; he asked only breath, though it should be drawn in the damp of the lowest caverns of their hills." *Rob Roy*, vol. iii. p. 121; edition 1818.

Other individuals, again, experience no such passion for existence; they regard pain, and parting with the objects of their affections, as the chief evils of death:—so far as the mere pleasure of living is concerned, they are ready to surrender it with scarcely a feeling of regret; they discover nothing appalling in death, as the mere cessation of being; and do not feel the prospect of immortality to be essential to their enjoyment of the present life. I have found these different feelings combined with the most opposite dispositions in all other respects: the great lovers of life were not always the healthy, the gay, and the fortunate; nor were those who were comparatively indifferent to death, always the feeble, the gloomy, and the misanthropic: on the contrary, the feeling existed strongly and weakly in these opposite characters indiscriminately.

Neither does the difference depend on the moral and religious qualities of the individuals; for equal morality and religion are found in combination with either sentiment. This is a point in human nature not generally adverted to; nevertheless, I have obtained so many assurances of the existence of these different feelings, from individuals of sound judgment and unquestionable veracity, that it appears to me highly probable that there is a special organ for the Love of Life. We seem to be bound to existence itself by a primitive and independent faculty, just as we are led by others to provide for its continuance and transmission. Byron expresses his surprise at his own instinctive efforts to preserve himself from drowning, when, in his moments of reflection, he wished to die. The late excellent Dr John Aikin could

hardly comprehend the feeling of the "Love of Life." "I have conversed," says he, "with persons who have avowed a sentiment of which I confess I can scarcely form a conception—a strong attachment to existence abstractedly considered, without regarding it as a source of happiness."¹ Dr Thomas Brown treats of this faculty under the name of Desire of our own continued Existence. This desire, he beautifully remarks, "is, as a general feeling of our nature, a most striking proof of the kindness of that Being, who, in giving to man duties which he has to continue for many years to discharge in a world which is preparatory to the nobler world that is afterwards to receive him, has not left him to feel the place in which he is to perform the duties allotted to him as a place of barren and dreary exile. He has given us passions which throw a sort of enchantment on every thing which can reflect them to our heart, which add to the delight that is felt by us in the exercise of our duties; a delight that arises from the scene itself on which they are exercised—from the society of those who inhabit it with us—from the offices which we have performed, and continue to perform."²

The organ is probably situated in the base of the brain. The only fact tending to illustrate its position is one observed by Dr A. Combe, and recorded in *The Phrenological Journal*, vol. iii. p. 471. In describing the dissection of the brain of a lady upwards of sixty, who for many years had been remarkable for continual anxiety about her own death, he observes, that "the enormous development of one convolution at the base of the middle lobe of the brain, the function of which is unknown, was too striking not to arrest our attention; it was that lying towards the mesial line, on the basilar and inner side of the middle lobe, and consequently of Destructiveness. The corresponding part of the skull

¹ *Letters to his Son*, vol. ii., Letter on the Value of Life, in which the origin of the feeling is discussed at some length.

² *Lecture 65*, vol. iii. p. 390.

shewed a very deep and distinctly-moulded cavity or bed running longitudinally, with high and prominent sides, and presenting altogether an appearance much more striking than in any skull I ever saw. From the situation of this convolution, its development cannot be ascertained during life, and hence its function remains unknown. Whether it may have any connexion with the Love of Life, is a circumstance which may be determined by future observations; all that we can say at present is, that the Love of Life seems to be a feeling *sui generis*, and not proportioned to any faculty or combination of faculties yet known,—that in the subject of this notice it was one of the most permanently active which she possessed,—and that in her the convolution alluded to was of very unusual magnitude; but how far the coincidence was fortuitous, we leave to time and observation to determine.”

Dr Spurzheim was disposed to admit the existence of this faculty, which he calls Vitativeness. “It is highly probable,” says he, “that there is a peculiar instinct to live, or Love of Life; and I look for its organ at the basis of the brain, between the posterior and middle lobes, inwardly of Combativeness.” Dr Vimont¹ admits this feeling to be a primitive instinct, and “considers that he has ascertained the seat of its organ in the lower animals. He names it the organ of self preservation (*organe de la conservation*). In 1824 and 1825 he observed the actions of twelve rabbits, the offspring of the same mother, and one of them struck him as remarkable above all the others for the habit of flying with astonishing rapidity when he approached towards it. It did not, however, manifest more cunning or more Cautiousness than the others, and when he wished to put it back into its box, he could catch it with the greatest facility. It manifested only a very vivid instinct of fear of danger to itself, or of self preservation. He killed several of the rabbits and examined their brains, and found that, in the one now describ-

¹ *Traité de Phrenologie*, tome ii. p. 160.

ed, the convolution marked A A in his Plate No. 87, fig. 1, was nearly double the size of the same part in the brains of the other rabbits which had not manifested this tendency in so high a degree. He then examined the brains of all the animals which he had preserved in spirits of wine, and found that all of them "which have a natural tendency to fly with rapidity at the approach of a person, or from the influence of external circumstances, were precisely those which presented this part of the brain in the highest state of development," namely, the ape, the fox, the badger, the cat, the marten, the pole-cat, the marmotte, the hare. It is enormously large in the stag and roebuck. Dr Vimont points out the situation of the organ in birds, and also in man. In the human species the convolution, he says, is situated in the lateral sphenoidal fossa corresponding to the situation before described by Dr Combe.¹

Dr Vimont considers this to be the organ of fear, and that Cautiousness produces only circumspection, and he claims the merit of having first discovered the instinct of self preservation and its organ. He refers to his having mentioned, in a memoir presented by him to the Institute of France in 1827, the fact that circumspection was not the sole faculty which prompted crows to fly on the approach of danger, and that this tendency might be the result of an instinct common to all animals of which the organ was situated at the base of the brain; that Dr Spurzheim did not discover it, and that the first notice of the existence of the instinct appeared in the 3d edition of the present work published in 1830. I am far from wishing to detract from the great merits of Dr Vimont, but consider it proper, as he has started this question, to remark that Dr A. Combe's report of the dissection of the brain of the lady before mentioned, in whom the organ was very large, bears date the 17th of May 1826, and was published in the *Phrenological Journal* for June in that year. The situation of the convolution represented

¹ *Phrenological Journal*, vol. x. p. 490.

by Dr Vimont, corresponds precisely with that described by Dr Combe. Of course I allow to Dr Vimont the merit of having made the discovery for himself:—I only mean to record what had been done in Scotland, apparently contemporaneously with his investigations, and in ignorance of their existence.

In treating of Cautiousness, I shall consider the question whether the organ now treated of be that of fear, as Dr Vimont supposes, or only that of the love of life, as I continue to believe it to be. Lord Bacon observes that every passion enables man to overcome the fear of death, even timidity itself; an idea which is inconsistent with the love of life and fear being one identical passion. If they were so, we should cling to life with a degree of intensity proportioned to the danger of our losing it, so that fear should never overcome but always augment the love of existence.

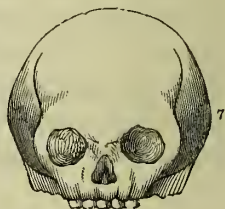
Dr George M'Clellan of Philadelphia mentioned to me that he had seen several cases which led him to infer that, *cæteris paribus*, tenacity of life bears some relation to the development of this organ. Those patients in whom it was large, would continue to live for days after death might have been expected, while others in whom the base of the brain in this region was narrow, would die suddenly, before any adequate cause was suspected to exist.

7.—SECRETIVENESS.

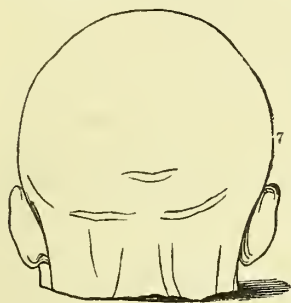
The organ is situated at the inferior edge of the parietal bones, immediately above Destructiveness, or in the middle of the lateral portion of the brain.

Hindoo.

When the organ of Destructiveness is much developed, it may be mistaken by the inexperienced observer for the organ of Secretiveness; so that it is necessary to remark, that the latter organ is placed higher, and rather farther forward, than the former; and



that, instead of presenting the form of a segment of a circle, it is extended longitudinally. When both organs are highly developed, the lower and middle portion of the side of the



head is characterized by a general fulness. The reader may contrast the skulls represented on pages 256 and 264. The annexed figure is a sketch of the shaven head of a secretive gentleman with whom I was acquainted, and of whose character an account will be found in *The Phrenological Journal*, viii. 206.

Dr Gall gives the following history of the discovery of this organ. In early youth, he was struck with the character and form of the head of one of his companions, who, with amiable dispositions and good abilities, was distinguished for cunning and finesse. His head was very broad at the temples, and in his natural attitude it projected forward. Although a faithful friend, he experienced an extraordinary pleasure in employing every possible device to make game of his schoolfellows, and to deceive them. His natural language was absolutely the expression of cunning, such as Dr Gall had often observed in cats and dogs when, playing together, they wished to give each other the slip. At a subsequent period, he had another companion, who, at first, appeared candour personified; no one had ever distrusted him: but his gait and manner were those of a cat watching a mouse; he proved false and perfidious, and deceived, in an unbecoming manner, his young schoolfellows, his tutors, and his parents. He carried his head in the same attitude as that before mentioned; his face was handsome, and his head exceedingly broad at the temples. One of Dr Gall's patients, who died of phthisis, generally passed for a very honest man: after his death, Dr Gall was struck with the breadth of his head in the temporal region; and shortly afterwards learned that he had cheated his acquaint-

ances, and even his mother, of considerable sums of money. At Vienna he was often in the company of a physician, possessed of much information, but who, on account of his character of a cheat, was generally despised. Under pretence of dealing in objects of art, and lending on pledges, he robbed all who put confidence in him. He carried his tricks and cheats to such a length, that the government warned the public, through the medium of the public journals, to beware of him ; for he had practised his arts with such dexterity that he could never be legally condemned. He often told Dr Gall that he knew no pleasure equal to that of deceiving, especially persons who distrusted him most. As the head of this individual also was very broad at the temples, Dr Gall was impressed with the idea that there might be a primitive tendency towards cunning in the mind, and that it might be connected with this particular cerebral organ. His conjecture has been confirmed by a great number of observations.

The nature and object of this propensity appear to be the following. The various faculties of the human mind are liable to enter into involuntary activity from internal causes, as well as through external excitement. Thus Amative-ness, becoming active, gives feelings corresponding to its nature ; Acquisitiveness inspires with strong desires for property ; and Love of Approbation fills the mind with projects of ambition. Every one must be conscious that these or similar feelings have at times rushed into his mind involuntarily, and refused to depart at the command of the will. Thoughts of all kinds, moreover, arise in the intellectual organs, and facts which ought not to be divulged occur to the recollection. If outward expression were given to these impulses and ideas, in all their vivacity, as they arise, social intercourse would frequently be rendered painful by the intrusion of offensive improprieties. Shakspeare, with great accuracy of observation, has portrayed this feature of the human mind. Iago says :

“ Utter my thoughts ! Why, say they ’re vile and false—
 As where’s that palace whereinto foul things
 Sometimes intrude not ? Who has a breast so pure,
 But some uncleanly apprehensions
 Keep leets and law-days, and in sessions sit
 With meditations lawful ?”—*Othello*, Act iii. Scene 5.

Some instinctive tendency, therefore, to restrain within the mind itself, and to conceal from the public eye, the various emotions and ideas which involuntarily present themselves, was necessary to prevent their outward expression ; and Nature has provided this power in the faculty of Secretiveness. It is an instinctive tendency to conceal, and the legitimate object of it is, to restrain the outward expression of our thoughts and emotions, till the understanding shall have pronounced judgment on its propriety. “ A fool,” says Solomon, “ uttereth all his mind ; but a wise man keepeth it in till afterwards.”¹

Besides, man and animals are occasionally liable to the assaults of enemies, which may be avoided by concealment, in cases where strength is wanting to repel them by force. Nature, therefore, by means of this propensity, enables them to add prudence, slyness, or cunning, according to the direction given to it by the other faculties of the individual, to their means of defence.

The primitive function of the faculty is to restrain the expression of the other powers ; in excess, it leads to cunning, and, in a state of deficiency, it leaves the other faculties to manifest themselves unrestrained by the curb which it supplies.

A sufficient endowment of this organ is essential to the formation of a prudent character. It then imposes a salutary restraint on the manifestations of the other faculties, and serves as a defence against prying curiosity. “ When Napoleon,” says Sir Walter Scott, “ thought himself closely

¹ Prov. xxix. 11. *Phren. Journ.* x. 615.

observed, he had the power of discharging from his countenance all expression, save that of a vague and indefinite smile, and presenting to the curious investigator the fixed eyes and rigid features of a marble bust.”¹ I have observed this power in concomitance with large Secretiveness. Those in whom it is deficient, are too open for the general intercourse of society; they are characterized by deficiency of tact—a headlong bluntness of manner, and the instantaneous expression of every thought and emotion as it flows into the mind, without regard to the proprieties required by time, place, or circumstances.

Mr Scott, in an excellent essay on this propensity, published in the *Transactions of the Phrenological Society*, observes, that it communicates the desire to discover the secrets of others, as well as to conceal our own. The author of *Waverley*, in his novel of *Quentin Durward*,² draws the character of Louis XI. with exact fidelity to this principle of our nature. The king, says he, was “calm, crafty, and profoundly attentive to his own interest. He was careful in disguising his real sentiments and purposes from all who approached him, and frequently used the expressions, that the king knew not how to reign who knew not how to dissemble; and that, for himself, if he thought his very cap knew his secrets, he would throw it into the fire. Like all astutious persons, he was as desirous of looking into the hearts of others, as of concealing his own.” The representation here given is historically correct. According to this view, even a large development of the organ, if combined with high morality and an enlightened understanding, is a valuable endowment. Persons so constituted, possessing themselves the natural talent requisite for intrigue, are well fitted to divine and discover intrigues and secret machinations in others, and to defeat them. From the same cause, they read, with great acuteness, the natural language of con-

¹ *Life of Napoleon*, iv. 37.

² Vol. i. p. 7, &c. See *Phren. Journ.*, i. 177.

concealment in other people, and are able, by the very air and manner of a man, to discover that he is hiding some object or intention, when a person in whom the organ is small could not perceive such a purpose. In many of the affairs of life also, secrecy is indispensable both to prudent conduct and to success. As a duty of friendship, it has ever been considered of prime importance. "Though thou drewest a sword at thy friend," says the son of Sirach, "yet despair not, for there may be a returning to favour; if thou hast opened thy mouth against thy friend, fear not, for there may be a reconciliation; excepting for upbraiding, or pride, or *disclosing of secrets*, or a treacherous wound; for, for these things, every friend will depart."¹ Secretiveness is an essential element of politeness, much of which consists in avoiding the expression of what is likely to be disagreeable. Montaigne has well distinguished the use from the abuse of this faculty: "A man," says he, "must not always tell all, for that were folly. But what a man says should be what he thinks, otherwise 'tis knavery."² Fielding's Parson Adams is a character in which Secretiveness is greatly defective. He had no power of concealment himself, and never suspected hidden purposes in others, or "saw farther into people than they desired to let him." Othello, in like manner, is thus described by Iago:

"The Moor is of a free and open nature,
That thinks men honest that but seem to be so;
And will as tenderly be led by th' nose,
As asses are." *Othello*, Act i. scene 11.

When too energetic, or not properly directed, Secretiveness is liable to great abuses. It then leads to a love for concealment, intrigue, and crooked policy, for their own sakes; and to a feeling that it is wise and proper to wrap up the purposes of the mind in the profoundest mystery; cunning is mistaken for ability, and deceit for practical wisdom.

¹ Eccles. xxii. 21.

² *Essays*, B. ii. ch. 17. *Cotton's Transl.*

It may prompt to the use of lies, hypocrisy, intrigue, or dissimulation, as means to gain an end. Persons in whom it predominates, judging of mankind in general by themselves, are never able to see the affairs of the world, or the conduct of others, in a plain and simple point of view, but imagine life to be a continual stratagem, in which every one is endeavouring to overreach his neighbour. Such persons conceive that the eye of the world is always looking into their breasts, to read the purposes that are there hatched, but the discovery of which they are resolved to prevent. In an argument, a secretive man will evade all admissions.

The propensity in some instances finds gratification in the most trifling mysteries; an individual under its predominating influence will conceal his going out, his coming in, his engagements, and all his transactions; even although communication of these would greatly facilitate domestic arrangements. Dr Johnson mentions of Pope, that he took so "great delight in artifice, that he endeavoured to attain all his purposes by indirect and unsuspected methods; he hardly drank tea without a stratagem. He practised his arts on such small occasions, that Lady Bolingbroke used, to say in a French phrase, that he played the politician about *cabbages and turnips*."

Dr King relates, in his *Anecdotes of his own Times* (p. 237), a remarkable instance of secretive conduct in a gentleman named Howe, with whom he was acquainted. One morning Mr Howe rose very early, and told his wife that he was obliged to go to the Tower to transact some particular business; and the same day, at noon, she received from him a note, stating that he was under the necessity of going to Holland, and should probably be absent three weeks or a month. He continued absent from her seventeen years, during which time she heard neither of nor from him. Instead, however, of going to Holland, he went no farther than to a street in the vicinity of his house, where he took a room, and remained in disguise during the whole time of his absence. In the second or third year after his disappearance, his wife

was obliged to apply for an act of Parliament, to procure a proper settlement of his estate, and a provision out of it for herself; this act he suffered to be solicited and passed, and enjoyed the pleasure of observing the progress of it in the votes. About ten years after his disappearance, he contrived to make acquaintance with the occupant of a house opposite his wife's dwelling, and frequently dined there; so that he could often see her at the window. He used also to attend the church which she frequented, and chose a seat where he had a view of her, but could not easily be observed himself. "After he returned home," says Dr King, "he never would confess, even to his most intimate friends, what was the real cause of such a singular conduct: apparently there was none; but whatever it was, he was certainly ashamed to own it." There can be little doubt that a predominant and engrossing Secretiveness was the chief feeling by which he was impelled.

This faculty prompts, says Dr Gall, the general of an army to the use of stratagems to deceive the enemy, while it leads him to conceal his own forces and enterprizes, and to make false attacks and counterfeit marches. Cicero remarks the difference of generals in this respect. "Among the Carthaginians," says he, "Hannibal, and among our own commanders Quintus Maximus, have the name of men extremely close and secret, silent, dissembling; notably good at stratagems, or setting spies upon an enemy and disappointing their counsels....There are others, now, so far from this artifice, that they are simple and open, to the degree of not enduring any thing but what is done above board; they will not suffer any thing that looks like treachery. These men are the servants of truth, and the enemies of fraud."¹ The same writer observes, that "there is no greater pest in human society, than a perverse craft, under the mask of simplicity."

Mercantile men in whom this organ predominates, occasionally conceal their circumstances from their wives and children, who proceed in the unsuspecting enjoyment of ima-

¹ *De Officiis*, lib. 1.

² *Ibid.* lib. iii.

ginary prosperity, till bankruptcy, like the explosion of a mine, involves them in instantaneous ruin. These individuals generally plead regard to the feelings of their relatives as their excuse ; but the distrust implied in such conduct is a greater injury to sensitive minds than the evils they attempt to veil. The real sources of their conduct are an overweening Self-esteem, which cannot stoop to acknowledge misconduct or misfortune, and an inordinate Secretiveness, inspiring them with an instinctive aversion to candid and unreserved communication. A favourite maxim with such men is, that secrecy is the soul of trade. It is so regarded only in narrow minds, misguided by this propensity.

Persons in whom Secretiveness is large, and who believe that they really conceal their true character from the world, are much startled at the exposure which Phrenology is said to make of the dispositions of the mind ; and they feel great difficulty in believing it practicable to compare genuine mental feelings with development of brain, because they imagine that real motives and dispositions are never exhibited in conduct. Such persons err, however, in their estimate even of their own powers of concealment ; for Secretiveness does not alter the aim, but affects only the means of obtaining gratification of our ordinary desires : and, besides, if disguise be really the forte of their character, Phrenology has the advantage of them still ; for it discovers the organ of Secretiveness large in their brains ; and in their very concealment they manifest most powerfully the faculty whose organ is most fully developed.

Innumerable abuses of this propensity occur in the ordinary intercourse of society. How polite, acquiescent, and deferential, are some persons in their manners to all who are present ; and how severe in their vituperations when the same individuals are absent ! This conduct results from Secretiveness and Love of Approbation, aided perhaps by Veneration addressing itself to Love of Approbation in others, and endeavouring to please them by professions of respect. Conscientiousness in such individuals is always de-

ficient. Many persons would not, for any consideration, mention a disagreeable truth to an acquaintance. This also arises from an abuse of Secretiveness, combined with great Love of Approbation.

The organ of Secretiveness is very large in the north American Indians, and also in the Peruvians of the Inca race. In the latter, it is so much developed that the longitudinal and lateral diameters of their skulls are nearly equal. They possess the power of concealment in an extraordinary degree. Dr Robertson, in his history of America, observes, that "The people of the rude tribes of America are remarkable for their artifice and duplicity. Impenetrably secret in forming their measures, they pursue them with a patient, undeviating attention, and there is no refinement of dissimulation which they cannot employ, in order to insure success. The natives of Peru were engaged above thirty years in concerting the plan of an insurrection; and though it was communicated to a great number of persons in all different ranks, no indication of it ever transpired, during that long period; no man betrayed his trust, or by an unguarded look or rash word, gave rise to any suspicion of what was intended. The dissimulation and craft of individuals, "continues Dr Robertson," is no less remarkable than that of nations. When set upon deceiving, they wrap themselves up so artificially, that it is impossible to penetrate into their intentions or to detect their designs."

To Mr Scott is due the merit of throwing great light on the influence of Secretiveness in producing humour. The power of representing, with a face of perfect gravity, some ludicrous incident, is one species of humour. The grave exterior, while the most ludicrous ideas are internally perceived, is a species of slyness, and is clearly attributable to Secretiveness. This kind of humour, also, is absolutely addressed to Secretiveness in others. We, as spectators, see the ludicrous, through the external gravity, and this gratifies our Secretiveness, which likes to penetrate disguises assumed by others, as well as to disguise itself. Another species of

humour consists in detecting and exposing little concealed purposes and intentions in our friends, and holding them up to view in all their nothingness, when they are mystifying or concealing them as matters of real importance. "The man of humour," says Mr Scott, "delights in detecting these little pieces of deception; and the *ludicrous* effect of this seems to arise from the incongruity which appears between the real and the assumed character—the contrast between what is intended to be apparent at the surface, and that which is seen to be at the bottom."¹ Secretiveness, however, affords only the slyness, the *savoir faire*, together with the tact of detecting little concealed weaknesses, implied in humour; and the faculty of Wit is necessary, in addition, to produce ludicrous effect in the representation. Thus, a person with much Wit, and little Secretiveness, will not excel in humour, although he may shine in pure wit. A person, on the other hand, with much Secretiveness, and moderate Wit, may excel in humour, although, in intellectual witty combinations, he may make but an indifferent figure.

It is a curious fact, that the Germans, Italians, and English, in whom Secretiveness is large, delight in humour; while the French, in whom the organ is moderate, can scarcely imagine what it is. In conformity with these differences in national development, the Germans, English, and Italians practise a prudent reserve in their intercourse with strangers, while the French are open to excess, and communicate even their private affairs to casual acquaintances. The French also delight to live, and even to die, in public; while the Englishman shuts himself up in his house, which he denominates his castle, and debarb all the world from observing his conduct. Other faculties contribute to these varieties of taste, but Secretiveness is an essential element in the relish for retirement.

I have uniformly found Secretiveness large in the heads of actors and artists, of which I have been permitted to

¹ *Phren. Trans.* p. 174. See illustrative cases in *Phren. Journ.* ii. 596, iv. 503, and viii. 216, 221.

examine a considerable number. In the cast of Miss Clara Fisher's head,¹ it will be seen amply developed. The theory of its effects in aiding the former seems to be this: The actor must conceal or shade his real character, and put forth the natural language of an assumed one. Secretiveness will enable him to suppress the manifestations of all the faculties which are not essential to the character of the personage whom he, for the time, represents; while, by withdrawing its restraint from the other faculties, it will allow them to develop themselves with full energy. Thus, suppose an actor, in whom Benevolence and Conscientiousness are large, to be called on to play Iago, a character in which selfishness and villany predominate, then Secretiveness will enable him to suppress the natural language of his own superior faculties, while, by withdrawing its influence from Combativeness, Destructiveness, and Self-Esteem, it will permit the most forcible expression of these in looks, tones, and gestures; and this will be Iago to the life. It aids the artist in a similar way. A painter or sculptor, in executing a figure, first studies the mental feelings which he intends to portray, then goes to a mirror and produces the expression of them in his own person, and copies it in his picture or block of marble. In this process he resembles an actor, and Secretiveness assists him in the manner before explained.

In this analysis, I differ in one point from Mr Scott. He thinks that Secretiveness confers not only the negative power of suppressing the real character, but also the positive power of calling up, at will, the natural language of such faculties as we wish to exhibit for the time. Thus, some persons are able to load others with expressions of great esteem, attachment, and good-will, when internally they hate them. Mr Scott conceives that Secretiveness enables such individuals not only to disguise their enmity, but to call up, for the occasion, the natural language of Adhesiveness, Benevolence, Veneration, and Love of Approbation, and to use these as instruments of deception. This latter effect ap-

¹ *Transactions of the Phrenological Society*, p. 281.

pears to me to depend on Imitation and Secretiveness combined.

When both Secretiveness and Cautiousness are very large, there is a tendency to extreme reserve, and, when little knowledge of the world is possessed, to suspicion and terror of dark designs and sinister plots, hatching on every hand against the unhappy possessor of this combination. In general, these plots have no existence beyond the internal feelings produced by those faculties.

Secretiveness, with small Conscientiousness, predisposes to lying, and, combined with Acquisitiveness, to theft. Indeed, Secretiveness is more invariably large in thieves than Acquisitiveness. It produces that capacity for sly cunning which is essential to a thief. An excellent elucidation, by Dr Andrew Combe, of the effects of Secretiveness, as a constituent element in the character of a thief, will be found in *The Phrenological Journal*, vol. i., p. 611; and farther remarks on this subject by Mr Hodgson and Dr Combe occur in vol. x., p. 451. The organ is large in David Haggart, and in a variety of executed thieves, whose casts have been obtained. It is very large in Linn¹ (see cut on p. 184), who, though ostensibly most artless, contrived to escape from confinement, without giving rise to suspicion, and managed matters so dexterously that no trace of him could be found. In Gottfried and Tardy (p. 144 and 255) the organ is much developed, and both were excessively cunning. Destructiveness also being very large, they murdered by means of poison, a mode of committing the crime usually preferred by secretive persons.

Another effect of great Secretiveness, especially when aided by much Firmness, is to produce the power of repressing, to an indefinite extent, all outward expression of pain, even when amounting to torture. Ann Ross (whose case is reported by Mr Richard Carmichael of Dublin²), with a view to excite the compassion of some pious and charitable ladies, thrust needles into her arm to produce disease, and carried

¹ *Phren. Journ.*, x. p. 213.

² *Phrenological Journal*, ii. 42.

the deception so far as to allow the limb to be amputated without revealing the cause. The needles were found on dissection, and she was more mortified by the discovery of the trick, than afflicted by the loss of her arm. She manifested the same faculty in a variety of other deceptions. I examined her head, and Mr Carmichael presented a cast of it to the Phrenological Society; and in it the organs of Secretiveness and Firmness are decidedly large. The North American Indians are celebrated for their power of enduring torture, and the same combination is indicated in their skulls, many of which I saw in the United States.¹ It is not large in the Negroes, and they are an open-minded race compared with the astutious varieties of mankind. It is very large in the native Peruvians, whose power of concealment is a distinguishing feature in their national character.² In the Laplanders, also, it is largely developed.³

Dr George Murray Paterson mentions that the Hindoos manifest Secretiveness in a high degree, in the form of cunning and duplicity; and the organ is very large in their heads.⁴

This propensity, when predominantly active, produces a close sly look; the mouth is instinctively kept closed; the eye is half-shut, just sufficiently open to enable the secretive person to see out, but not so wide as to enable others to see in; the voice is low; the shoulders are drawn up towards the ears, and the footstep is soft, furtive, and gliding.⁵ The movements of the body are towards the side. The organ is

¹ *Phrenological Journal*, ii. 535. Blumenbach, *Decas Prima*, tab. ix.

² Robertson's *History of America*, b. iv.; and *Edinburgh Review*, ix. 437.

³ *Phrenological Journal*, ix. 329. Blumenbach, *Decas Quinta*, p. 9.

⁴ *Trans. of the Phren. Soc.* p. 443.

⁵ When I visited Dresden in 1837, I saw in the Royal Gallery of Paintings, "Saal B.C. No. 62," an admirable picture by Titian of Christ answering the question, "Is it lawful to give tribute unto Cæsar, or not?" There is great nobleness and depth of reflection in the head and countenance of Christ, and the natural language of Secretiveness is also very distinctly expressed. The head and face speak to the eye the very language recorded by Matthew (chap. xxii. verse 18), "Why tempt ye me, ye hypocrites? Shew me the tribute-money." "Whose is this image and superscription?" "Cæsar's." "Render therefore unto Cæsar the

large in the "old miser;" and his countenance expresses the natural language of the faculty. If Cautiousness also is

OLD MISER.



large, the eye, when the individual is alarmed, rolls from side to side. Sir Walter Scott accurately describes the look produced by this faculty and Cautiousness in the following lines. Speaking of Cormac Doil, he says—

"For *evil* seemed that old man's eye,
Dark and designing, fierce yet shy,
Still he avoided forward look,
But slow and circumspectly took
A circling never-ceasing glance,
By doubt and cunning marked at once ;
Which shot a mischief-boding ray,
From under eye-brows shagg'd and grey."

Lord of the Isles, Canto iv. p. 24.

When this organ is very large in the head of an author, it produces a curious effect on his style. The different mem-

things which are Cæsar's ; and unto God, the things that are God's." Great depth of analysis of human nature, and astonishing powers of observation, are displayed by Titian, in adding the natural language of Secretiveness to this picture. The answer of Christ to the Pharisees was not a direct reply to an honest question ; but a designed and dexterous evasion of an insidious query. The Pharisees employed Secretiveness to entrap him into sedition ; and, in his defence, he manifested a depth of Secretiveness far surpassing theirs ; he penetrated their hidden purpose, and exposed at once their malice and their guile. Nothing, therefore, could be

bers of his sentences are involved, parenthetical, and often obscure, as if he were in doubt whether he selected the proper place for his expressions, and hesitated between what he ought to put down and what he might leave to be understood. He is also liable to quaintness. Pope's style occasionally indicates this quality, and the faculty was strongly manifested in his character. Dr Thomas Brown's style, also, is characterized by Secretiveness, and the organ was large in his head. Croly's poetry presents the expression of it. Goldsmith's writings indicate a very moderate endowment in him. This faculty, by enabling an author to work up his incidents and events, and to conceal the *denouement* of his plot or story till the most appropriate time and place for the elucidation, greatly aids him in producing effect. The organ was very large in Sir Walter Scott, and also in Swift and Burns.¹

The organ of Secretiveness is possessed by the lower animals, and Dr Gall remarks that it requires a particular study in each species. In the common species of ape, for example, it commences above the origin of the zygomatic arch, and extends forward to nearly the middle of this bone. Its situation is the same in the tiger, cat, and fox. In carnivorous animals, also, and in birds distinguished for cunning, this region will in general be found large.

Dr Vimont observes, that, in man, this organ occupies more true to nature than to represent the natural language of Secretiveness in the countenance. But humbler artists have not understood the nature or value of this expression. Near the picture is a copy of it, No. 440, by Flammigo Torre, one of Titian's pupils. The natural language of deep intellectual power is preserved in it, but that of Secretiveness is greatly diminished. When I was in the gallery, an artist had just finished another copy of it, and he had omitted the secretive expression altogether. In the original, the eyes and mouth are much closed: he had opened both considerably, and changed the character of the mental expression. He was an Englishman, employed by his countrymen to copy some of the great pictures in the Dresden Gallery. His head was large and well formed; but Secretiveness was not so fully developed as it generally is in artists who possess original talent; and my impression is, that, in this particular, he did not feel or understand the character of the original.

¹ *Phren. Journ.* ix. 64.

the middle region of the inferior margin of the parietal bone. In the carnivorous animals, such as the dog, the fox, the wolf, the marten, and pole-cat, the organ is placed exactly above the line which the shell-like articulation of the temporal bone forms : it occupies the middle of the inferior margin of the parietal bone. In birds of the crow genus, the organ commences a few lines above the little bony process, placed at the most remote part of the *external meatus auditorius*, and extends forward several lines. In granivorous birds, the organ is placed behind and above the external orbitary process. In herbivorous quadrupeds, and *the rodentia*, it is placed farther forward and a little higher than in carnivorous animals. It forms the rounded mass in the roebuck ; and contributes to increase the arch of the cranium in the hare, rabbit, and squirrel ;¹ all as represented in his plates.

Manifestations of this propensity, clearly attributable to disease of the organ, are described by authors on insanity.² The cunning shewn by many of the insane, especially in concealing their true state, has often excited astonishment. Foderé speaks of two patients who had been long confined in the asylum at Marseilles. After an apparent cure of considerable duration, their friends demanded their dismissal. He, however, suspected deception, and determined to hold a long conversation with them. For an hour and a half, during which he avoided the kind of ideas in regard to which he knew them to be insane, they spoke, reasoned, and acted, like men of sound judgment. But when he introduced the subject which excited their deranged faculties, their eyes began to sparkle, the muscles of the face to contract, and an evident agitation took place, accompanied with an effort to preserve calmness. They were ordered to be detained. Pinel mentions the cunning and tricks of some lunatics as remarkable. Dr Marshal³ notices the case of a man in Bethlem Hospital in 1789, who fancied he was a great man. “ He

¹ *Traité de Phrenologie*, tome ii, p. 197.

² See Dr A. Combe's *Observations on Mental Derangement*, pp. 182, 250.

³ *Morbid Anatomy of the Brain*, p. 192,

was very crafty, and used much flattery to the keepers, calling them ‘fine men, gentlemen,’ especially when he wanted any indulgence; but when his complacent looks and genteel expressions did not avail him, he became revengeful, made up some plausible story against them, and slyly told it to the steward. When fresh patients came into the house, he always introduced himself to them; he was very civil to them, and, after gaining their confidence, he tried to get their money from them, which, if he could not do by other means, he had recourse to stratagem to get possession of it.”

The regular metaphysicians have not admitted any faculty corresponding to this propensity, nor am I aware that they give *any* theory of cunning, although it is an obvious ingredient in human nature. The quality, however, is familiarly recognised by a variety of writers. Lord Bacon on his *Essay on Cunning*, graphically describes a number of the abuses of Secretiveness. “We take cunning,” says he, “[f]or a sinister or crooked wisdom, and certainly there is a great difference between a cunning man and a wise man, not only in point of honesty, but in point of ability. There be that can pack the cards and yet cannot play well; so there are some that are good in canvasses and factions, that are otherwise weak men.” In *Peveril of the Peak*, we have the following dialogue. “Your Grace holds his wisdom very high,” said the attendant. “*His cunning at least*, I do,” replied Buckingham, “which, in court-affairs, often takes the weather-gage of wisdom.” The organ is regarded as established.

8.—ACQUISITIVENESS.

THE organ of this faculty is situated at the anterior inferior angle of the parietal bone. By Dr Spurzheim it was called Covetiveness; Sir G. S. Mackenzie suggested the more appropriate name of Acquisitiveness, which Dr Spurzheim subsequently adopted.

The primitive faculty manifested by the organ appears to be the sense of property, of which the desire to acquire is the active form.¹

¹ *Traité de Phrenologie*, par Dr Vimont, tome ii. p. 262.

The metaphysicians have not admitted a propensity to acquire, which is gratified by the mere act of acquisition without any ulterior object, as a faculty of the human mind. Dr Hutcheson says: "Thus as soon as we come to apprehend the use of wealth or power, to gratify any of our original desires, we must also desire them; and hence arises the universality of these desires of wealth and power, *since they are the means of gratifying all other desires.*" In like manner, we are told by Mr Stewart, that "whatever conduces to the gratification of any natural appetite, or of any natural desire, *is itself desired, on account of the end to which it is subservient*; and by being thus habitually *associated* in our apprehension with agreeable objects, it frequently comes, in process of time, to be regarded as valuable in itself, independently of its utility. It is thus that wealth becomes with many an ultimate object of pursuit; though, a first, it is undoubtedly valued, merely on account of its subserviency to the attainment of other objects."¹

The same author says in another place, that "avarice is a particular modification of the desire of power, arising from the various functions of money in a commercial country. Its influence as an active principle is much strengthened by habit and association."²

Dr Thomas Brown³ admits the desire of wealth to be a modification of the desire of power, but he endeavours to shew that Mr Stewart's theory is defective in accounting for avarice, and enters into a most ingenious argument, to explain how that feeling arises from association. He takes *time* into account as an ingredient; and adduces the example of a boy purchasing an apple. "Before the boy lays out his penny in the purchase of an apple or orange," says he, "it appears to him valuable chiefly as the mode of obtaining the apple or orange. But the fruit, agreeable as it may have been while it lasted, is *soon devoured*; its value, with respect to him, has wholly ceased; and the penny, he knows, is still in existence, and would have been still *his own*,

¹ *Elements*, p. 388.

² *Outlines*, p. 92.

³ *Lectures*, vol. iii. p. 474.

if the fruit had *not* been purchased. He thinks of the penny, therefore, as *existing now*, and existing without any thing which he can oppose to it as an equivalent ; and the feeling of *regret* arises,—the wish, that he had *not* made the purchase, and that the penny, as still existing, and equally capable as before of procuring some new enjoyment, had continued in his pocket.” This produces “a slight terror of expense, which the habits of many years may strengthen into parsimony.”

Nothing can be more ingenious than this speculation, and it is a beautiful instance of the nature of metaphysical science ; but it is not sound. The question occurs, Why is this “slight terror of expense” experienced only by some boys and some men, since association and the love of enjoyment are universal qualities of human nature ?

It is proper to mention, however, that Lord Kames (who has been censured by the regular metaphysicians for admitting too many faculties), recognises the existence of this feeling as a primitive propensity in man, and calls it the “hoarding appetite. Man,” says his Lordship, “is by nature a *hoarding animal*, having an *appetite* for storing up things of use ; and the sense of property is bestowed on men for securing what they thus store up.”¹ He adds, that “the appetite for property, in its nature a great blessing, degenerates into a great curse, when it transgresses the bounds of moderation.” And in another work he observes : “The notion of property arises from an innate sense, which teaches even infants to distinguish between *yours* and *mine*.”²

The observer of the passion of avarice in real life, is not satisfied with such theories as those of Mr Stewart and Dr Brown. Dr King, in his *Anecdotes of his Times*, remarks, that an avaricious man “is *born and framed* to a sordid love of money, which first appears when he is very young, grows up with him, and increases in middle age, and, when he is old, and all the rest of his passions have subsided, wholly

¹ *Sketches*, B. I. Sketch 2.

² *Loose Hints upon Education*, 2d edit. p. 100.

engrosses him." (P. 101.) He mentions Lord Chancellor Hardwick, the Duke of Marlborough, Sir James Lowther, Sir Thomas Colby, and Sir William Smith, as remarkable instances of it.

The metaphysical notions of Mr Stewart fail entirely to explain the phenomena of avarice, under which passion no enjoyment is sought, except that of accumulating wealth. The character of Trapbois, as drawn in *The Fortunes of Nigel*, is a personification of the faculty of Acquisitiveness, operating as a blind animal instinct, exalted to the highest degree of energy and activity, and extinguishing every feeling of the mind, except that of fear, which it had cultivated and increased to minister to its protection. This character is recognised as natural; highly coloured, indeed, but true to life in its leading features. It appears absurd, to ascribe, as the metaphysicians do, so intense a passion to a mere law of association as its source—to an error of the understanding, in mistaking wealth for the objects which it is fitted to obtain. The very essence of the character is a desire for wealth, independent of every purpose of application. Phrenologists have observed that the intensity of the desire to acquire bears a proportion to the size of a certain part of the brain, and they therefore regard it as an original propensity of the mind. It gives that innate sense of property which exists in man, and in many of the inferior animals. The organ was discovered in the following manner.

When Dr Gall was employed in comparing mental manifestations with cerebral development, he was in the habit of collecting in his house individuals of the lower orders, with the view of more easily discovering the different primitive propensities, which he supposed would be found to operate in them with greater simplicity and vigour than in persons of higher rank. On many occasions, the individuals assembled, encouraged by him to familiarity, accused each other of petty larcenies, or of what they styled *chiperies*, and took great pleasure in pointing out those who excelled in such practices; and the *chipeurs* themselves advanced in front of

their companions, proud of their superior *savoir-faire*. What particularly attracted his attention was, that some of the men shewed the utmost abhorrence of thieving, and preferred starving to accepting any part of the bread and fruit which their companions had stolen ; while the *chipeurs* ridiculed such conduct, and thought it silly.

To discover whether this tendency to pilfer was connected with any particular cerebral organ, Dr Gall divided the persons whom he had assembled into three classes : the *first* included the *chipeurs* ; the *second*, those who abhorred the very idea of stealing ; and the *third*, those who seemed to regard it with indifference. On comparing the heads of these three classes, he found that the most inveterate *chipeurs* had a long prominence extending from the organ of Secretiveness, almost as far as the external angle of the superciliary ridge ; and that this region was *flat* in all those who shewed a horror of theft,—while in those who were indifferent about it, the part was sometimes more and sometimes less developed, but never so much as in the professed thieves : and on repeating the experiment again and again with a new assemblage, he found the same results uniformly present themselves.¹

Having thus ascertained the constancy of the *facts*, the idea naturally occurred to the mind of Dr Gall, that the propensity to *appropriate* must be somehow connected with the peculiarity of cerebral configuration which had so strongly attracted his notice. It could not be the effect of education, for most of the subjects of his observations had received none. They were the children of nature left to their own resources. Some who detested stealing happened to be precisely those whose education had been most completely neglected. The wants and circumstances of all of them were

¹ The effect of the moral sentiments in directing Acquisitiveness is not sufficiently adverted to by Dr Gall in this description. This organ may be large in an individual, who may nevertheless have an abhorrence of theft, if his organs of Conscientiousness, Benevolence, and Reflection be also large. He will be fond of property, but will desire to obtain it honestly.

nearly the same,—the examples set before them were the same,—and to what causes, therefore, could the difference be ascribed, if not to an original difference of mental constitution ?

At this time Dr Gall was physician to the Deaf and Dumb Institution, where pupils were received from six to fourteen years of age, without any preliminary education. M. May, a distinguished psychologist, then director of the establishment, M. Venus, the teacher, and he, had it thus in their power to make the most accurate observations on the primitive mental conditions of these children. Some of them were remarkable for a decided propensity to steal, while others did not shew the least inclination to it ; some of them were easily reformed, but others were quite incorrigible. The severest punishments were inflicted upon one of them, but without any effect. As he felt himself incapable of resisting temptation, he resolved to become a *tailor*, because, as he said, he could then indulge his inclination with impunity. On examining the heads of all these boys, the same region was found to be developed uniformly in proportion to the endowment of the propensity. Dr Gall made casts of those of them who were confirmed thieves, in order to compare them with such other heads of thieves or robbers as might afterwards fall in his way.

About this time, also, Dr Gall met with another very decisive proof of the connexion between this propensity and a particular development of brain. In the House of Correction he saw a boy of fifteen years of age, who had been a notorious thief from his earliest infancy. Punishment having had no effect upon him, he was at last condemned to imprisonment for life, as absolutely incorrigible. In a portrait of him in the 26th plate of Dr Gall's Atlas, a remarkable prominence in the lateral region of the head is conspicuous, corresponding to what is now ascertained to be the organ of Acquisitiveness. The forehead is low, narrow, and retreating, and his intellect is stated to have been exceedingly weak and

defective ; and hence the ascendancy and activity of the propensity in question are easily explained.

In the cut of the “old miser” on p. 308, the organ of Acquisitiveness, No. 8, is large.

This propensity, when viewed in its most active form, that of an instinctive appetite for accumulation, presents a mean and vulgar aspect, and we are apt to regard the individual in whom it predominates, as a base and sordid being, cased in selfishness, and dead to every generous sentiment. But when we contemplate it in its results, it rises vastly in dignity and importance. The first demand of nature is to live and to enjoy ; the other feelings of the mind, independently of Acquisitiveness, would prompt man to kill and eat, or to weave and wear, for the satisfaction of his present wants. But if he bounded his industry by his necessities, and lolled in idleness when not employed in indispensable pursuits, he would never become rich. Wealth consists of the savings of the products of industry, after supplying immediate demands. According to the metaphysicians, there is no instinctive propensity in man, prompting him, by a natural impulse, to save and to accumulate ; they imagine that the calls of nature for immediate gratification, or the love of power, are the only motives to such exertions. In the faculty of Acquisitiveness, however, the phrenologist perceives an instinct prompting the human being, after his appetites of hunger and thirst are appeased, and his person protected against the inclemency of the seasons, to continue to labour, induced to do so by the mere delight of accumulating ; and to the ceaseless industry which this instinct produces, is to be ascribed the wealth with which civilized man is everywhere surrounded. It prompts the husbandman, the artizan, the manufacturer, the merchant, to diligence in their several vocations ; and, instead of being necessarily the parent only of a sordid appetite, it is, when properly directed, one of the sources of the comforts and elegancies of life. Its regular activity distinguishes civilized man from the savage. The prodigal, who consumes the last shilling which he can command, dies and leaves behind

him no useful trace of his existence. The laborious artizan, on the other hand, who, under the impulse of this faculty, saves half the produce of his labour, leaves it as a contribution to the stock of national capital, to set in motion the industry of unborn generations. These, if animated by the same spirit, will transmit it with new accessions to their posterity; and thus the stream of public prosperity will be swelled, in an increasing ratio, to the remotest periods of time. When, however, the pursuit of wealth becomes the chief business of life, Acquisitiveness engrosses the intellect, deadens the moral sentiments, and debases the whole faculties of the mind.

The propensity takes its direction from the other faculties with which it is combined. Acquisitiveness and Individuality both large, are necessary to a spirited collector of objects in natural history: When it is combined with large Form, Colouring, and Ideality, it takes the direction of pictures;—when with large Veneration, it may lead to collecting old coins. In no instance where the wish to acquire and possess is strongly manifested, is this organ deficient; while, on the other hand, in those in whom there is no appetite for accumulation, who allow their substance to slip through their hands, from incapacity to retain it, I have always seen it small.

Mr Owen lately of New Lanark maintains, that the desire for wealth, or individual property, is not a natural propensity of the human mind; and, in his own head, this organ (like that of Destructiveness, the feeling attached to which he also denies) is by no means largely developed. So differently do those feel in whom Acquisitiveness is large, that they wish to acquire for the mere sake of acquisition. If a person so endowed be owner of fifty acres, it will give him delight to acquire fifty more; if of one thousand or one hundred thousand, he will still be gratified in adding to their number. His understanding may be convinced that he already possesses ample store for every enjoyment, and abundant provision against every want; yet, if this faculty

be active, he will feel his joys impaired if he cease to amass. This explains the insatiable nature of the passion for acquiring, and also one source of the disappointment generally experienced by persons whose lives have been devoted to commerce, when they retire from business with a view to enjoy the fruits of their industry. The gratification of Acquisitiveness in accumulating wealth constituted the chief pleasure of their previous lives; and when this propensity has ceased to be gratified, and no other faculty has been cultivated with equal ardour, ennui and disgust are the natural and unavoidable results of their new condition.

It has been stated, as an objection to this propensity, that property is an institution of society, and that an organ cannot exist in the brain for a factitious desire. The answer to this argument is, that the love of property springs from the natural suggestions of the faculty in question; and that the laws of society are the consequences, not the causes, of its existence. Laws are intended to regulate the desires of mankind for possessions; but this purpose clearly supposes such desires antecedently to exist.

Many persons, in whom Benevolence and Love of Approbation are large, as well as Acquisitiveness, can with difficulty believe that the latter influences their feelings. They are so ready to disburse and to bestow that they never accumulate, and hence persuade themselves that they have no tendency to acquire. But such persons are keen in their dealings; they cheapen in making purchases, know where bargains are to be obtained, and, on consulting their own minds, they will find that schemes for acquiring property frequently haunt their imaginations. They are also prone to admire the rich. Persons, on the contrary, in whom the organ is small, think of every thing with more interest, and pursue every object with more avidity, than wealth. They may be industrious in order to live, but there is no intense energy in their pursuit of gain; and their fancies, in building castles in the air, rarely erect palaces of gold, or place happiness in hoards of accumulated riches.

The effects of this faculty are greatly modified by the strength of Self-Esteem. Acquisitiveness desires to *acquire*: Self-Esteem produces the *love of self*; the two conjoined give rise to the love of acquisition for self-gratification; and if both organs be large, the individual will have a strong tendency to sordid selfishness, unless the moral powers be active and energetic. The passion for *uniques*, also, seems to arise from this combination.

Dr Gall observes, that the Negroes are little prone to steal, and that the organ is moderately developed in them. This observation, however, is too general. There are great differences in negro heads, and in the corresponding dispositions. Dr Gall had an opportunity of observing among the Spanish troops, that both the Arragonese and Castilians have the anterior part of the temporal region a good deal flattened, denoting a small Acquisitiveness; and he was assured that they are faithful servants, and equally incapable of stealing and of lying. The Kalmucks, again, are the very opposite. They are renowned for thieving and bad faith; and, in accordance with this, Blumenbach, in describing the Kalmuck skull, observes that it is almost globular, and projects in the region of Acquisitiveness—“*globosa fere calvariae forma*”—“*capita ad latera extantia.*” Dr Gall possessed two Kalmuck skulls, both corresponding with Blumenbach’s description. Dr Spurzheim also mentions, “that a young Kalmuck, brought to Vienna by Count Stahrenberg, became melancholy, because his confessor, who instructed him in religion and morality, had forbidden him to steal. He got permission to steal, on condition that he should give back what he had stolen. The young man, profiting by this permission, stole his confessor’s watch during high mass, but joyfully returned it after mass was over.”

It is difficult to conceive a miser without a great endowment of this propensity, although an individual may be a thief with a moderate portion of it. Avarice arises from Acquisitiveness, raised to the height of a passion. Theft implies a want of regulating and directing influence from

the moral faculties, as much as an excessive and intense desire to acquire property for the sake of possessing it. Strong sensual propensities, which cannot be gratified without money, may lead individuals to resort to theft as a means of supplying their wants, without the love of property itself being strong; but Conscientiousness must be weak, before such an expedient will be resorted to.

The existence of this organ throws light on the tendency to steal, which some individuals, whose external circumstances place them far above temptation, manifest in a remarkable degree. In them, it seems to be in a state of diseased activity, and not to be controlled by the moral and reflecting faculties. Dr Gall mentions several cases of diseased affections of this organ. M. Kneisler, governor of the prison of Prague, spoke to him and Dr Spurzheim about the wife of a rich merchant, who stole continually from her husband in the most adroit manner, and who was at last shut up in a house of correction, which she had scarcely left, when she stole again, and was again confined. She was condemned to a third and longer imprisonment, and again commenced her operations in the jail itself. With the utmost address, she made a hole in the stove which heated the apartment where the money was deposited, and committed repeated depredations, which were soon noticed. Every means were adopted to detect the offender, and bells were suspended at the doors and windows, but all in vain. At length a spring-gun was set, the wire of which was connected with the strong box. She was so dreadfully frightened by its explosion, that she had not time to escape through the stove. At Copenhagen, Drs Gall and Spurzheim saw an incorrigible thief, who sometimes distributed the produce of his larcenies to the poor; and, in another place, a robber, who was in confinement for the seventh time, assured them with sorrow, that he felt himself unable to act otherwise. He begged to be detained in prison, and to be provided with the means of supporting himself.

At Munster, a man was condemned to imprisonment for

eight years, on account of some robberies : he was no sooner liberated than he committed fresh depredations, and was then imprisoned for life. Sixteen years afterwards he revealed a conspiracy which had been formed among the criminals, and it was proposed to reward him by setting him free. The judge stated, that it would be dangerous to do so, as the man himself had previously assured him that his thievish propensity was so rooted in his constitution that he could not by any possibility resist it. About a year afterwards, he escaped from prison, betook himself to his old practices, and was again arrested ; shortly after which he hanged himself. " During ten years that I have known this man in the prison," said Werneking, from whom Drs Gall and Spurzheim got these details, " he was remarkable for activity, and also for devotion during divine service ; but I learned after his death, that he had constantly been committing theft, even in the prison itself."

Dr Gall mentions, that among the young men confined in one of the prisons of Berlin (*Stadtvogtey*), one in particular attracted the attention of Dr Spurzheim and himself. They strongly recommended that he should never be set at liberty, as they thought it impossible he could abstain from stealing. They explained their opinions to the gentlemen who accompanied them, and, on examining the registers, the latter were much surprised to find that the man had from infancy manifested the strongest tendency to thieving. The organs of the higher sentiments were extremely deficient, while that of Acquisitiveness was developed in the highest degree. There was, moreover, an immense endowment of Secretiveness. The man was little and deformed ; his forehead " villanously low," retreating backwards immediately above the eyebrows ; but the lateral regions, or temples, were broad and prominent. In such a case no phrenologist would hesitate to give the same advice.

In the prison at Bern, Drs Gall and Spurzheim saw a rickety and badly-organized boy of twelve years of age, who could not refrain from stealing ; and who, with his pockets

filled with his own bread, purloined that of others. At Haina, the officers spoke to them about an incorrigible robber, named Fesselmayer, whom no punishment could amend. He stole in prison to such an extent, that a mark was put upon his arm, that all might be upon their guard against him. Before seeing him, Drs Gall and Spurzheim stated what his development ought to be, and their prediction was verified at the first glance. He had the appearance of being sixteen, although he was in reality twenty-six years of age. His head was round, and about the size of that of an infant of one year. He was, moreover, deaf and dumb.

Mr Schiotz, a Danish magistrate, reports the case of an incorrigible thief, in whom he found the organ of Acquisitiveness very large.¹

Numerous examples of the diseased activity of this propensity occur in all lunatic asylums, and afford strong proof of the independent existence of the faculty and organ. Pinel tells us, that it is a matter of common observation, that men who, in their lucid intervals, are justly considered as models of probity, cannot refrain from stealing and cheating during the paroxysm; and Dr Gall gives four cases of women, who, in their ordinary state, had no such tendency, but when pregnant manifested it in a high degree.

Two citizens of Vienna attracted his notice, both of whom had led irreproachable lives previously to becoming insane. After that time both were distinguished for an extraordinary inclination to steal. They wandered over the hospital from morning to night, picking up whatever they could lay their hands upon—straw, rags, clothes, wood, &c.,—which they carefully concealed in the apartment which they inhabited in common; and, although lodged in the same chamber, they stole from each other. In both the organ was very much developed. I have seen several patients in asylums for the insane, in whom the propensity to steal was a predominant trait, and the organ was largely developed in them all.

¹ *Phren. Journ.* viii. 64.

M. Esquirol, physician to the Saltpétrière of Paris, gave Dr Gall an account of a Knight of Malta, who had quitted the army at the beginning of the French revolution, and who, from excessive indulgence and disappointed love, had become weak in intellect, violent in temper, and at last a thief. On his way to M. Esquirol's asylum, he contrived to steal spoons, covers, &c., from the inns at which he dined. He then went about accompanied by a servant, and not unfrequently refreshed himself in coffee-houses, and, instead of paying, put the cup, saucer, and spoon into his pocket, and walked away. In other respects he was sufficiently reasonable. This inclination to theft was cured, although his intellect remained weak.

Acrel mentions a young man who was trepanned, in consequence of a severe wound on the temple, in the region of the organ of Acquisitiveness. After his dismissal from the hospital, he manifested an irresistible propensity to steal: after committing several larcenies, he was imprisoned, and would have been condemned, had not Acrel declared him insane.

“There are persons,” says that accurate and philosophical observer and physician Dr Rush of Philadelphia,¹ “who are moral to the highest degree as to certain duties, but who, nevertheless, live under the influence of some one vice. In one instance a woman was exemplary in her obedience to every command of the moral law except one—*she could not refrain from stealing*. What made this vice more remarkable was, *that she was in easy circumstances, and not addicted to extravagance in any thing*. Such was the propensity to this vice, that, when she could lay her hands upon nothing more valuable, she would often, at the table of a friend, fill her pockets secretly with bread. She both confessed and lamented her crime.” A case of the same kind is recorded in *The Phrenological Journal*;² and Montaigne refers to similar instances which had fallen under his own observa-

¹ Rush's *Medical Inquiries*.

² Vol. ix. p. 459.

tion.¹ In 1839 when I was in the United States of North America, my portmanteau was robbed of five hundred dollars by the wife of a rich merchant. She had committed many other thefts. After her detection, her husband restored the stolen property. She was not prosecuted, the persons robbed having been satisfied that she laboured under a diseased propensity to steal.

The *Journal de Paris* of 29th March 1816, states, that “An ex-commissary of Police, Beau-Conseil, has just been condemned to eight years’ confinement and hard labour, and to the pillory, for having, when still in office, stolen some pieces of plate from an inn. The accused persisted to the last in an *odd* enough species of defence. He did not deny the crime, but he attributed it to mental alienation, occasioned by wounds which he had received at Marseilles in 1815.” Dr Gall observes, that if the previous conduct of Beau-Conseil was irreproachable, and if he really did receive a wound in the head, either his counsel was inexcusable in not making the defence available, or the court was blameable for not listening to it.

This propensity is found also in the lower animals. Lord Kames observes, that “the beavers perceive the timber they store up to be their property; and the bees seem to have the same perception with regard to their winter provision of honey.” Dr Gall mentions a variety of the lower animals which manifest the sense of property. The same pair of storks, swallows, nightingales, and redbreasts, return in spring or in autumn, to the same country in which they had passed the season in the preceding year, and establish themselves, the storks on the same chimneys or steeples, the swallows under the same roofs, and the nightingales in the same bushes. If another pair of birds attempt to seize the place already appropriated, war is immediately waged against them, and the intruders are forced to depart. Cows returning from the pasturage, occupy each its own stall in the byre, and de-

¹ *Essays*, B. ii. ch. 8.

fend it.¹ The cat and dog, in hiding food, to be used when hunger returns,—and the squirrel, hamster, and jackdaw, which collect provisions for the winter,—undoubtedly have the notion of property in the stores they accumulate. These animals, however, do not enact laws ; and the sense of property is in them clearly an instinct of nature. In the human race, says Dr Gall, the process is the same : Nature inspires the mind with the notion of property, and laws are made to protect it. Dr Vimont (tome ii. p. 268) says, that he has found this organ large in quadrupeds and animals which steal or lay up provisions ; and he gives drawings of the skulls of a fox, an ouran-outang, and of several cats whose habits he had observed. The organ was moderately developed in one cat not addicted to stealing, and very large in another that was an incorrigible thief. The organs of Secretiveness, Alimentiveness, and Acquisitiveness, were all very largely developed in the head of a dog, of which Dr Broussais said, that “ it was such a thief as perhaps never before existed.” In all birds, continues Dr Vimont, which have a tendency to steal or lay up provisions, such as the magpie, the jay, the crow, the organ of Acquisitiveness is situated immediately above the organ of Secretiveness. The two together, enlarge the lateral region of the skull. The skulls of the crow and magpie contrast singularly in this respect, with those of the cock and the turkey.

See farther notices of this faculty in the *Phrenological Journal*, xii. 212 ; xiv. 44, 361 ; xv. 97, 213, 366. The organ is regarded as established.

9.—CONSTRUCTIVENESS.

THIS organ is situated at that part of the frontal bone immediately above the speno-temporal suture. It lies on the posterior lateral portion of the super-orbital plate. Its ap-

¹ This, however, may arise from the love of place.

pearance and situation vary slightly, according to the development of the neighbouring parts. If the zygomatic process is very projecting, or if the middle lobes of the brain, or the forehead in general, or the organs of Language and Order in particular, are greatly developed, its size is less easily distinguished. The leading object should be to determine the actual size of each organ, and not its mere prominence ; and, on this account, it is proper farther to notice, that if the base of the brain is narrow, this organ holds a situation a little higher than usual, and there will then frequently be found a slight depression at the external angle of the eye, between the zygomatic process and the organ in question, especially when the muscles are thin. In such cases, Constructiveness has sometimes appeared as high up as Tune generally occurs. This slight variation from uniformity of situation occurs in the distribution of all the parts of the body : but the anatomist is not, on this account, embarrassed in his operations ; for the aberration never exceeds certain limits, and he acquires, by experience, the tact of recognising the part by its general appearance.

It has been objected, that the elevation or depression of this part of the brain depends on the force with which the temporal muscles, which lie over it, have acted in the individual: carnivorous animals, it is said, which masticate bones, possess those muscles in a very powerful degree, and in consequence they have the zygomatic arch large, and the skull narrow, and little brain in the region of this organ.

The answer to this objection is fourfold. *First*, The form of the head alluded to, occurs in the foetus of carnivorous animals, and cannot therefore be the effect of the action of their jaws on hard substances. *Secondly*, Carnivorous animals, which do not build, such as the dog, the lion, the tiger, want the organ in question, and have narrow heads. The absence of the organ, the narrowness of their heads, and their want of constructive power, are facts in exact accordance with Phrenology. *Thirdly*, Carnivorous animals which do, in some degree construct, such as the fox, the badger, and

the polecat, possess the organ, and their heads are broader at this part than those of animals which do not construct, which also is in accordance with Phrenology. *Fourthly*, In the rodentia it enlarges the anterior and inferior angle of the parietal bone, and the portion of the frontal bone which articulates with this angle.¹ The beaver cuts timber with its teeth, and its temporal muscles act with great energy; yet the organ is large, the head is broad, and the animal is highly constructive—all which circumstances harmonize with our doctrine, and contradict that of the objectors. *Lastly*, In the human race, the size of the head, at the region in question, does not bear a proportion to the force with which mastication is performed; for some individuals, who live chiefly on slops, and chew little, have narrow heads and weak constructive talents, while others, who eat hard viands, have broad heads, and manifest great mechanical skill. The actual size of the head in this quarter, from whatever cause it arises, bears a regular proportion to the actual endowment of constructive ability.

The temporal muscles differ in thickness in different persons, and the phrenologist should desire the individual observed, to move the lower jaw, and, while he does so, he should feel the muscle, and allow for its size. The uncertainty in regard to the dimensions of the temporal muscle, renders it unsafe to predicate the size of the organs of Constructiveness and Acquisitiveness from *casts* of the *head*, unless information as to the thickness of the fleshy fibres be communicated. This organ, therefore, is best established by examining living heads, or skulls, or casts of skulls.

When Dr Gall first turned his attention to the talent for construction, manifested by some individuals, he had not discovered the fact that every primitive faculty is connected with a particular part of the brain as its organ; and, on this account, he directed his observations to the whole heads of great mechanics. He was frequently struck with the

¹ Vimont, *Traite de Phrenologie*, tome ii. p. 353.

circumstance, that the heads of such artists were as broad in the temporal region as at the cheek-bones. This, however, although occurring frequently, was not a uniform characteristic; and hence he was led by degrees to believe, that the talent depended on a particular power. In order to find out an indication of it in the head, he sought acquaintance with men of distinguished mechanical genius wherever he found them, studied the forms of their heads, and moulded them. He soon met with some in whom the diameter from temple to temple was greater than that from the one zygomatic bone to the other; and at last found two celebrated mechanicians, in whom there appeared two swellings, round and distinct, at the temples. These heads convinced him, that it is not the circumstance of equality in the zygomatic and temporal diameters which indicates a genius for mechanical construction, but a round protuberance in the temporal region, situated in some individuals a little behind, in others a little behind and above the eye. This development is always found in concomitance with great constructive talent; and when the zygomatic diameter is equal to it, then there is a parallelism of the face; but, as the zygomatic bone is not connected with the organ, and projects more or less in different individuals, this form of countenance is not invariably the concomitant of constructive talent, and ought not be taken as the measure of the development of the organ.

Having thus obtained some idea of the seat and external appearance of the organ, Dr Gall assiduously multiplied observations. At Vienna, some gentlemen of distinction brought to him a person, concerning whose talents they solicited his opinion. He stated that he ought to have a great tendency towards mechanics. The gentlemen imagined that he was mistaken, but the subject of the experiment was greatly struck with this observation: he was the famous painter Unterbergen. To shew that Dr Gall had judged with perfect accuracy, he declared that he had always had a passion for the mechanical arts, and that he painted only for a livelihood. He carried the party to his house, where he shewed

them a multitude of machines and instruments, some of which he had invented, and others improved. Besides, Dr Gall remarks, that the talent for design, so essential to a painter, is connected with the organ of Constructiveness, so that the art which he practised publicly was a manifestation of the faculty.¹

Several of Dr Gall's auditors spoke to him of a man who was gifted with an extraordinary talent for mechanics; Gall described to them beforehand what form of head he ought to have, and they went to visit him: it was the ingenious mathematical instrument-maker Lindner, at Vienna; and his temples rose out in two little rounded irregular prominences. Dr Gall had previously found the same form of head in the celebrated mechanic and astronomer David, Augustine friar, and in the famous Voigtländer, mathematical instrument-maker. At Paris, Prince Schwartzberg, then Minister of Austria, wished to put Drs Gall and Spurzheim to the test. When they rose from table, he conducted Dr Gall into an adjoining apartment, and shewed him a young man:

¹ Dr Scheel of Copenhagen had attended a course of Dr Gall's lectures at Vienna, from which city he went to Rome. One day he entered abruptly, when Dr Gall was surrounded by his pupils, and, presenting to him the cast of a skull, asked his opinion of it. Dr Gall instantly said, that he 'had never seen the organ of Constructiveness so largely developed as in the head in question.' Scheel continued his interrogatories. Dr Gall then pointed out also a large development of the organs of Amativeness and Imitation. "How do you find the organ of Colouring?"—"I had not previously adverted to it," said Gall, "for it is only moderately developed." Scheel replied, with much satisfaction, "that it was a cast of the skull of Raphael." The skull from which the cast was taken was preserved in the Academy of St Luke at Rome, and was universally mentioned as being that of Raphael; so that Dr Scheel acted in perfect good faith on this occasion. It has been since discovered that the skull was not that of Raphael. Dr Gall merely stated the development which he observed in it; and it remains as striking an example of that development as ever. As, however, the mental qualities of the individual are unknown, it affords no evidence for or against Phrenology, and I therefore omit farther mention of it in this edition. It is now said to have been the skull of Adju. torio, a celebrated amateur in the fine arts, who founded St Luke's Academy. See *Phrenological Journal*, vol. ix. p. 92.

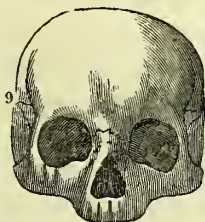
without speaking a word, he and the Prince rejoined the company, and he requested Dr Spurzheim to go and examine the young man's head. During his absence, Dr Gall told the company what he thought of the youth. Dr Spurzheim immediately returned, and said, that he believed him to be a great mechanician, or an eminent artist in some constructive branch. The Prince, in fact, had brought him to Paris on account of his great mechanical talents, and supplied him with the means of following out his studies.

Dr Gall adds, that, at Vienna, and in the whole course of his travels, he had found this organ developed in mechanicians, architects, designers, and sculptors, in proportion to their talent.

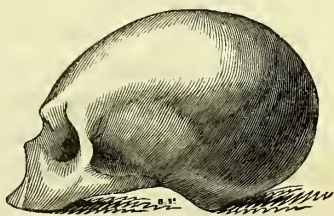
He mentions, that, at Mulhausen, the manufacturers do not receive into their employment any children except those who, from an early age, have displayed a talent for the arts, in drawing or clipping figures; because they know, from experience, that such children alone become expert and intelligent workmen.

Dr Spurzheim mentions the case of a milliner of Vienna, who was remarkable for constructive talent in her art, and in whom the organ is large. A cast of her skull is in the Phrenological Society's collection, and it presents two small round eminences at the situation of the organ.

ANCIENT GREEK.



NEW HOLLANDER.



These figures represent the skulls of an ancient Greek and a New Hollander. In the New Hollander, the skull at Constructiveness falls greatly within the line of the cheek-bones; while in the Greek, the skull swells out at that organ. "The natives of New Holland," says Sir Walter Scott, "are, even

at present, in the very lowest scale of humanity, and ignorant of every art which can add comfort or decency to human life. These unfortunate savages use no clothes, construct no cabins or huts, and are ignorant even of the manner of chasing animals, or catching fish, unless such of the latter as are left by the tide, or which are found on the rocks."

Dr Broussais mentions, that in the last voyage made by Captain Durville, Messrs Quoy and Gaimard, who accompanied the expedition in the capacity of surgeons and naturalists, had observed that the organ of Constructiveness is extremely defective in the New Hollanders, whom they visited, and who construct neither habitations, clothes, nor implements of art for their own accommodation, while the organ was well marked in the New Zealanders, who shew a talent for architecture, and build houses for themselves with a good deal of art. These gentlemen knew something of Phrenology, and were capable of making and reporting these observations.¹

When Dr Spurzheim was in Edinburgh in 1817, he visited the work-shop of Mr James Milne, brass-founder (a gentleman who himself displays no small ingenuity in his trade, and in whom Constructiveness is largely developed), and examined the heads of his apprentices. The following is Mr Milne's account of what took place upon the occasion :

"On the first boy presented to Dr Spurzheim, on his entering the shop, he observed, that he would excel in any thing he was put to. In this he was perfectly correct, as he was one of the cleverest boys I ever had. On proceeding farther, Dr Spurzheim remarked of another boy, that he would make a good workman. In this instance, also, his observation was well-founded. An elder brother of his was working next him, who, he said, would also turn out a good workman, but not equal to the other. I mentioned, that, in point of fact, the former was the better, although both were good. In the course of farther observations, Dr Spurzheim remarked of others, that they ought to be ordinary trades-

¹ *Cours de Phrénologie*, p. 274.

men, and they were so. At last he pointed out one, who, he said, ought to be of a different cast, and of whom I would never be able to make any thing as a workman, and this turned out to be too correct; for the boy served an apprenticeship of seven years, and, when done, he was not able to do one-third of the work performed by other individuals, to whose instruction no greater attention had been paid. So much was I struck with Dr. Spurzheim's observations, and so correct have I found the indications presented by the organization to be, that when workmen, or boys to serve as apprentices, apply to me, I at once give the preference to those possessing a large Constructiveness; and if the deficiency is very great, I would be disposed to decline receiving them, being convinced of their inability to succeed."

The organ of this faculty is very largely developed in Sir Mark I. Brunel, the celebrated engineer of the Thames Tunnel, and the inventor of machinery for making blocks for the rigging of ships, by means of steam; and who has, besides, shewn a great talent for mechanics in numerous departments of art. It is large in Edwards, an eminent engraver; in Wilkie, Haydon, and J. F. Williams, celebrated painters; in Sir W. Herschel, whose great discoveries in astronomy arose from the excellence of his telescopes, made by his own hands; and in Mr Samuel Joseph, an eminent sculptor. Masks of all these individuals are to be seen in the Phrenological Society's collection. In the late Sir Henry Raeburn, who was bred a goldsmith, but became a painter by the mere impulse of nature, without teaching, and without opportunities of study, I observed it large. It is large, also, in Mr Scoular, a sculptor, who displayed this talent at a very early age. I have noticed it large in all the eminent operative surgeons of Edinburgh, in distinguished engravers, and also in cabinet-makers and tailors who excel in their art. It and Form are large in children who are fond of clipping and drawing figures. The organ is well developed in many of the Esquimaux, who shew considerable constructive talent.¹ It is large in most of the ancient Greeks in the Society's Museum. The busts also of

¹ *Phren. Journ.* viii. p. 425.

eminent artists of former ages display a great development of this organ ; in particular, in that of Michael Angelo, in the church of Santa Croce at Florence, the breadth from temple to temple is enormous. The reflective organs, situated in the forehead, and likewise Ideality, are in him very large ; and these add understanding and taste to the talent for and love of constructing works of art.

On the other hand, I possess a cast of the head of a very ingenious friend distinguished for his talents as an author, who has often complained of so great a want of constructive ability, that he found it difficult even to learn to write ; and, in his head, although large in other dimensions, there is a conspicuous deficiency in the region of Constructiveness. Among the negative instances are the casts and skulls of the New Hollanders, in the Phrenological Society's collection, which are remarkably narrow in the situation of this organ ; and their low condition in the constructive arts has been already mentioned. Contrasted with them are the Italians and French. An accurate and intelligent phrenologist authorizes me to state, that, during his travels in Italy, he observed a full development of Constructiveness to be a general feature in the Italian head ; and the same holds, but in a less degree, in the French. Both of these nations possess this organ, and constructive ingenuity, in a higher degree than the English.

These are positive facts in regard to the organ of Constructiveness. I shall now advert to a few circumstances illustrative of the existence of a talent for construction, as a distinct power of the mind apart from the general faculties of the understanding ; from which the reader may form an opinion of the extent to which the phrenological views agree or disagree with the common phenomena of human nature. This is the more necessary, as metaphysical philosophers in general do not admit a primitive faculty of Constructiveness, and hold the mechanical arts to be the result exclusively of reflection.

Among the lower animals, it is clear that the ability to construct is not in proportion to the endowment of under-

standing. The dog, horse, and elephant, which in sagacity approach very closely to the more imperfect specimens of the human race, never, in any circumstances, attempt a work of art. The bee, the beaver, and the swallow, on the contrary, with far less general intellect, rival the productions of man. Turning our attention to the human race, we observe, that while, among children of the same family, or the same school, some are fond of a variety of amusements unconnected with art, others constantly devote themselves, during their leisure hours, to designing with chalk, various objects on the boards of books, walls, and paper, or occupy themselves with fashioning in wax or clay, or clipping in paper, the figures of animals, trees, and men. Children of a very tender age have sometimes made models of a ship of war, which the greatest philosopher would in vain strive to imitate. The young Vaucanson had only seen a clock through the window of its case, when he constructed one in wood, with no other utensils than a bad knife. A gentleman with whom I was intimately acquainted constructed, at an early age, a mill for making pot-barley, and actually set it in operation by a small jet from the main stream of the Water of Leith. Lebrun drew designs with chalk at three years of age, and at twelve he made a portrait of his grandfather. Sir Christopher Wren, at thirteen, constructed an ingenious machine for representing the course of the planes. Michael Angelo, at sixteen, executed works which were compared with those of antiquity.¹

The greater number of eminent artists have received no education capable of accounting for their talents; but, on the contrary, have frequently been compelled to struggle against the greatest obstacles, and to endure the most distressing privations, in following out their natural inclinations.² Other individuals, again, educated for the arts, and on whom every advantage has been lavished, have never sur-

¹ Gall *Sur les Fonctions du Cerveau*, tome v.

² A striking case of this nature is reported in *The Phrenological Journal*, i. 509.

passed mediocrity. Frequently, too, men whom circumstances have prevented from devoting themselves to arts to which they were naturally inclined, have occupied themselves with mechanics as a pastime and amusement. An eminent Scotch barrister, in whom Constructiveness is largely developed, has informed me, that occasionally, in the very act of composing a written pleading on the most abstruse questions of law, vivid conceptions of particular pieces of mechanism, or of new applications of some mechanical principle, dart into his mind, and keep their place so as to interrupt the current of his voluntary thoughts until he has embodied them in a diagram or description, after which he is able to dismiss them, and proceed with his professional duties. Leopold I., Peter the Great, and Louis XVI. constructed locks. The organ of Constructiveness was largely developed in the late Lord President Blair of the Court of Session, as appears from a cast of his head, his statue, and also his portraits: and it is said that he had a private workshop at Avondale, in Linlithgowshire, in which he spent many hours during the vacations of the Court, constructing pieces of mechanism with his own hands. The predilection of such individuals for the practice of mechanical arts cannot reasonably be ascribed to want, or to their great intellectual faculties; for innumerable objects, more directly fitted to gratify or relieve the understanding, must have presented themselves to their notice, had they not been led by a special liking to the course they followed, and felt themselves inspired by a particular talent for such avocations. Not only so, but examples of an opposite description are met with; namely, of men of great depth and comprehensiveness of intellect, who are destitute of manual dexterity. Lucian and Socrates renounced sculpture, because they felt that they possessed no genius for it. M. Schurer, formerly Professor of Natural Philosophy at Strasburg, broke every article he touched. There are persons who can never learn to make a pen or sharpen a razor; and Dr Gall mentions, that two of his friends, the one an excellent teacher, the other "grand ministre," were passionately fond of gardening, but

he could never teach them to engraft a tree. Montaigne says of himself—"I cannot handsomely fold up a letter, nor could ever make a pen, or carve at table worth a pin, nor saddle a horse."¹ As a contrast to these, men of considerable mechanical dexterity are frequently found to be remarkably destitute of talent for every other pursuit, and to possess very limited understandings.

Cases of disease also tend to prove, that Constructiveness is a special faculty, and not the result merely of general intellect. Dr Rush mentions two cases in which a talent for design had unfolded itself during a fit of insanity; and he adds, that there is no insane hospital in which examples are not found, of individuals who never shewed the least trace of mechanical talent previously to their loss of understanding; but who have subsequently constructed the most curious machines, and even ships completely equipped.² Foderé, in his *Traité du Goitre et de la Cretinisme*, p. 133, remarks, "That, by an inexplicable singularity, some of these individuals (Cretins), endowed with so weak minds, are born with a particular talent for copying paintings, for rhyming, or for music. I have known several who taught themselves to play passably on the organ and harpsichord; others who understood, without ever having had a master, the repairing of watches, and the construction of some pieces of mechanism." He adds, that these powers could not be attributed to the intellect, for the individuals in question not only could not read books which treated of the principles of mechanics, "mais ils étaient déroutés lorsqu'on en parlait, et ne se perfectionnaient jamais."

In the lower animals, Nature has implanted a propensity to construct, but in them it is always specific; while, in man, a similar tendency is found, but general in its application. For example, nature inspires the beaver not only with a de-

¹ *Essays*, B. ii. ch. 17. Cotton's Transl.

² Rush's *Medical Inquiries and Observations on the Diseases of the Mind*. Philadelphia, 1812. P. 153.

sire to build, but also with an instinctive and unerring impulse, independent of acquired knowledge and experience, to construct a dwelling of a particular form ; and the power of the animal to build is confined entirely within the limited sphere of its intuitive inspiration. Man, on the other hand, has received from Nature a propensity to construct, but not a limited instinct to build a house or a ship, or to weave a coat or a vest, or, in short, to fashion any *particular* object. The beaver possesses no general reflecting powers to direct its propensity, and hence it was necessary to inspire it not only with a desire to build, but with a plan of architecture. To man, on the contrary, reflection, and the power of amassing knowledge, are given ; and the faculties of the understanding enable him to invent plans, and to employ his impulse to construct in a great variety of ways. In man, Constructiveness is essentially a power of representation. It enables him to embody in forms, the ideas perceived and conceptions engendered by his other faculties.

Intellect alone, with extreme deficiency of Constructiveness, will never enable an individual to become an expert handicraftsman, or artist, because in him the power of representation through the medium of forms will be feeble ; but, if the development of Constructiveness be considerable, and equal in two individuals, and the intellectual organs be large in the one and small in the other, the former will accomplish much higher designs in representation than the latter. The reason is this : The primitive talent for construction is the same in both ; but the one, by means of his larger intellect, is endowed with a wider range of perception of objects and of conception of ideas, and of their relations, furnishing to his constructive talent more ample materials for action, while the other, owing to the smallness of his intellect, is limited to a mere mechanical talent, never stretching beyond the imitation of objects that have fallen under his direct perception.

The word *Constructiveness* has been objected to as not sufficiently comprehensive. To construct is to take detached

materials and put them together, so as to form a single object out of the whole. Thus we may be correctly said to construct a house, a machine, or a ship. The faculty, however, goes farther than this; it seems to be a tendency to *fashion* in general—in other words, to alter the shape or appearance of objects—whether by combining detached materials, or by chipping off fragments, or by drawing lines and laying on colours. It is not the province of this faculty to *invent*, but merely to *fashion*, or *configure*, and thereby to *represent* the ideas formed by the other faculties.¹ Invention is an act of the understanding alone; so that we find ingenious inventors who are destitute of mechanical skill, and excellent handicraftsmen, without any power of invention. It is probable, however, that Constructiveness, when powerful, stimulates the understanding to invent what will give itself agreeable employment in the process of construction. When the organ of Weight is large, machinery is the department preferred.

Dr Gall mentions, that it is difficult to discover the position of this organ in some of the lower animals, on account of the different arrangement of the convolutions, their small size, and the total absence of several of those which are found in man. The organ of Tune in the lower creatures is situated towards the middle of the arch of the eyebrow, and that of Constructiveness lies a little behind it. In the hamster, marmot, and beaver, of whose crania he gives plates, it is easily recognised; and at the part in question, the skulls of these animals bear a close resemblance to each other. In the beaver and other *rodentia*, the organ will be found immediately above and before the base of the zygomatic arch, and the greater the talent for construction the more this region of their head projects. The rabbit burrows under

¹ Mr Richard Edmonson of Manchester, in an essay, "On the Functions of the Organs called Weight and Constructiveness," published in the ninth volume of *The Phrenological Journal*, pp. 142, 203, and 624, considers the elementary function of the organ, as being to perceive "the degrees of force." See also vol. x., p. 160.

² See *Phrenological Journal*, ii. 415; and iii. 190.

ground, and the hare lies upon the surface ; yet their external members are the same. On comparing their skulls, this region will be found more developed in the rabbit than in the hare. The same difference is perceptible between the crania of birds which build nests, and those of such as do not build. Indeed the best way to become acquainted with the appearance of the organ in the lower animals, is to compare the heads of animals of the same species which build, with those of such as do not manifest this instinct ; the hare, for example, with the rabbit, or birds which make nests with those which do not. Between the brains of animals of different species, it is impossible to make a very accurate comparison.

Additional cases and observations will be found in the *Phrenological Journal*, vol. x., pp. 214, 545, vol. xv. pp. 56, 117, 357.

The organ is regarded as established.

GENUS II.—SENTIMENTS.

THIS genus of faculties embraces certain feelings which correspond to the “emotions” of the metaphysicians. They differ from intellectual perceptions, in being accompanied with a peculiar vividness, which every one understands, but which it is impossible to express by any verbal definition.¹ They may be excited by the presentment of the external objects naturally related to them, as danger is to fear, and august appearance to reverence ;—or by the spontaneous activity of the organs. Dr Spurzheim has named these faculties Sentiments, because they produce an emotion or feeling of a certain kind, joined with a propensity to act ; but, as shewn in the Appendix No. II., the detail of his classification is here by no means accurate. Several of them are common to man and the lower animals ; others are peculiar to man. The former, styled the Inferior or Lower Sentiments, shall be first treated of.

¹ *Lectures by Dr Thomas Brown. Lecture 52.*

1. *Sentiments common to Man and the lower Animals.*

10. SELF-ESTEEM.

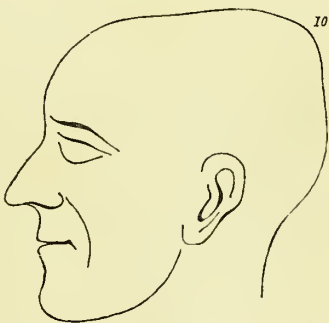
THIS organ is situated at the back part of the mesial region of the vertex, where the coronal surface begins to decline towards the occiput, and above the posterior or sagittal angle of the parietal bones. Dr Vimont (tome ii. p. 398) considers that Dr Gall has carried its inferior margin rather too low in the head. When it is large, the head rises high upward and backward from the ear, in the direction of it.

FRANCOIS CORDONNIER.

MR A——.



Self-Esteem moderate.



Self-Esteem large.

Dr Gall gives the following account of the discovery of the organ. A beggar attracted his attention by his extraordinary manners. He reflected on the causes which, independently of an absolutely vicious conformation of brain, or of misfortunes, could reduce a man to mendicity, and believed that he had found one of the chief of them in levity and want of foresight. The form of the head of the beggar in question confirmed him in this opinion. He was young and of an agreeable exterior, and the organ of Cautiousness was very little developed. Dr Gall moulded his head, and, on examining it with attention, remarked, in the upper and

back part of the middle line, a prominence extending from above downwards, which could arise only from development of the cerebral parts there situated. He had not previously observed this prominence in other heads ; and, on this account, he was anxious to discover what it indicated. The head, moreover, was small, and announced neither strong feelings nor much intellect. After many questions, addressed to him with a view to discover the remarkable traits of his character, Dr Gall requested him to relate his history. The beggar said that he was the son of a rich merchant, from whom he had inherited a considerable fortune ; that he had always been so proud as not to be able to condescend to apply to business, either for the preservation of his paternal fortune, or to acquire a new one ; and that this unhappy pride was the only cause of his misery. This, says Dr Gall, “ called to my recollection those persons who forbear to cut their nails, with the view of supporting the idea that they never need to work.” He made several remarks to the beggar, and shewed him that he doubted his veracity ; but the man always reverted to his pride, and seriously stated, that even now he could not resolve to follow any kind of labour. Although it was difficult to conceive how pride should cause any one to prefer begging to working,¹ yet Dr Gall was led by this person’s reiterated assurances, to reflect upon the sentiment, and to observe the organ ; and he found, at length, incontrovertible proofs of their connection.

He mentions a variety of cases in illustration, of which I select only the following :—

A young man endowed with faculties above mediocrity, had manifested, from his infancy, insupportable pride. He constantly maintained that he was of too good a family to work, or apply himself to anything. Nothing could free him from this absurdity ; he was even placed for eighteen months

¹ From the description given of this individual’s head, it is plain that he must have approached to idiocy ; and his beggary seems to have been the result of a general imbecility of mind, accompanied with an inordinate endowment of Self-Esteem.

in a house of correction at Hainar. A physician of Vienna, an otherwise amiable man, carried the feeling of pride to such a height, that every time when called to a consultation, even with practitioners older than himself, or with public professors, he regularly took the precedence, both in entering and coming out of the apartment. When any document was to be subscribed, he insisted on affixing his signature first. He had connected himself with the director of the great hospital, but solely, as he himself told afterwards, for the purpose of supplanting him. At Heidelberg Dr Gall saw a girl of eighteen, of a remarkable character. Every word or gesture in the least familiar revolted her. She called on God on every occasion, as if He took a special interest in her affairs. When she spoke, assurance and presumption were painted in her features; she carried her head high, and a little backwards, and all the movements of her head expressed pride. She was not capable of submission; when in a passion she was violent, and disposed to proceed to all extremities. Although the daughter of only a quill-merchant, she spoke her native language with extraordinary purity, and communicated with none but persons of a rank superior to her own. In all these individuals the organ of Self-Esteem was very largely developed. Dr Gall mentions, that he had examined also the heads of a number of chiefs of brigands, remarkable for this quality of mind, and that he had found the organ large in them all.

The faculty inspires with the sentiment of Self-Esteem or Self-love, and a due endowment of it produces only excellent effects. It imparts that degree of satisfaction with self, which leaves the mind open to the enjoyment of the bounties of Providence and the amenities of life;—it inspires us with that degree of confidence, which enables us, in every situation in which we are placed, to apply our other powers to the best advantage. It also aids in giving dignity in the eyes of others; and we shall find in society, that that individual is uniformly treated with the most lasting and sincere respect, who esteems himself so highly as to condemn every action

unworthy of an exalted mind. By communicating this feeling of self-respect, it frequently and effectually aids the moral sentiments in resisting temptation to vice. Several individuals in whom the organ is large, have stated to me that they have been restrained from forming improper connections, by an overwhelming sense of the degradation which would result from doing so ; and that they believed their better principles might have yielded to temptation, had it not been for the support afforded to them by the instinctive impulses of Self-Esteem.¹

When the organ is too small, a predisposition to humility is the result. In such a case, the individual wants confidence, and a due sense of his own importance. He has no reliance upon himself ; if the public or his superiors frown, he is unable to pursue even a virtuous course, through diffidence of his own judgment. Inferior talents, combined with a strong endowment of Self-Esteem, are often crowned with far higher success, than more splendid abilities, joined with this sentiment in a feebler degree. Dr Adam Smith, in his *Theory of Moral Sentiments*, remarks, that it is better, upon the whole, to have too much, than too little, of this feeling ; because if we pretend to more than we are entitled to, the world will give us credit for at least what we possess ; whereas, if we pretend to less, we shall be taken at our word, and mankind will rarely have the justice to raise us to the true level.

It is only when possessed in an inordinate degree, and indulged without restraint from the higher faculties, that it occasions abuses. In children, it then shews itself in pettishness, and a wilful temper. Those children in whom the organ is small, are generally obedient, and easily directed according to the will of others. In later life a great development of the organ, with deficiency of the moral powers, produces arrogance, conceit, pride, egotism, and selfishness. The first thought of persons so endowed is, how the thing

¹ See *The Phrenological Journal*, iii. 85.

proposed will affect themselves ; they see the world and all its interests only through the medium of self. When it is very large, and Love of Approbation small, it prompts the individual to erect himself into a standard of manners and morals. He measures himself by himself, and contemns the opinions of all who differ from him. Men of this character sometimes marry beneath their rank, through sheer Self-Esteem. They cannot risk the mortification of a refusal from a lady of their own grade, and therefore address an inferior. They also set the opinions of society proudly at defiance.

I have seen individuals mistake the impulses of the sentiment under discussion for the inspiration of genius, and utter common-place observations with a solemnity and emphasis suitable only to concentrated wisdom. The musician, under its predominating influence, is sometimes led to embellish a tune with decorations of his own inventing, till its character is changed, and the melody destroyed. In short, when the organ is inordinately large, it communicates to the individual a high sentiment of his own importance, and leads him to believe that whatever he does or says is admirable, because it proceeds from *him*. It inspires him with magnificent notions of his own respectability, and prompts him, on comparing himself with others, to depreciate them, in order to raise himself in the scale of comparative excellence. It is an essential element in the disposition to censoriousness and envy. Persons who are fond of discussing the characters of their acquaintances, and feel the tendency to vituperate rather than to praise them, who are vexed when they are elevated, and pleased when they are humbled, will be found to have this organ large. It is the comparison with self, and a secret satisfaction at fancied superiority, that gives pleasure in this practice. Envy is the result of Self-Esteem, offended by the excellencies or superior happiness of others, and calling up Destructiveness to hate them.¹ To

¹ See *Phren. Journ.* ix. 413. Jealousy arises from the same combination with the addition of Secretiveness and Cautiousness—*Ibid.*

make way for this effect, however, Benevolence and Conscientiousness must be deficient. The bitter and envious tone, the sententious reflections, and the ill-concealed self-complacency of backbiters, all indicate an internal adulation of themselves, and a vivid desire of superiority, gratified even by depreciating others. A common form of abuse of the feeling is contempt entertained for other men. The mechanic contemns the domestic servant; the wholesale merchant contemns the retail dealer; the nobleman of ancient descent contemns the man who has acquired fortune and honours by his own virtues and talents; children in hooting and pelting an idiot, gratify Self-Esteem and Destructiveness. The chief source of their pleasure is a vivid sense of their own superiority.

Another effect of a predominating Self-esteem, is to render the individual extremely well satisfied with whatever belongs to himself. An eminent phrenologist sailed as a passenger from the Clyde to a foreign port, in a vessel commanded by a person in whose head the organ was very largely developed, and saw many striking manifestations of it on the voyage. The captain said, that he estimated the vessel very lightly when he first saw her, but after commanding her for some time, he thought her the first ship belonging to the Clyde. This was evidently because she had become his vessel. On his voyage he assumed the most dictatorial airs; told the passengers he would send them before the mast, that he was sole commander here, and that all must obey; spoke habitually of himself, and seemed to have an insatiable appetite for power. He possessed little reflection, and was deficient in Conscientiousness.¹

When Self-Esteem predominates, it gives an intense feeling of egotism; there is a proneness to use the emphatic *I*: "*I* did this, *I* said the other thing." The faculty then gives a solemn gravity to the manners, an authoritative commanding tone to the voice, and a kind of oracular turn to the mind, which frequently shews itself in the most ludi-

¹ See details in *The Phrenological Journal*, i. 259.

crous manner. Cobbett's whole life and writings indicate an excessively active Self-Esteem, aided by Combativeness;¹ and he maintained, at different times, every variety of opinion that could enter the human imagination, and upon every point of his changeful creed he dogmatized with more than oracular assumption. Madame de Stael describes most graphically another illustrious example of the effects of an inordinate Self-Esteem, even on a powerful mind. Speaking of one of the heroes of the Revolution, she says, that he possessed considerable talents, “*mais au lieu de travailler il s'étonnoit de lui-même.*” Some individuals manifest a solemn good-natured patronizing tendency towards others, indicated in discourse by epithets such as “my good sir, “my good fellow,” and the like. This arises from Self-Esteem and Benevolence both large.

Self-Esteem enters largely into the composition of that intolerant zeal which is so frequently displayed by professing Christians on behalf of their sectarian views. “There is no grace,” says Cowper in one of his *Letters*, “that the spirit of self can counterfeit with more success than a religious zeal. A man thinks he is fighting for Christ, and he is fighting for his own notions. He thinks that he is skilfully searching the hearts of others, when he is only gratifying the malignity of his own; and charitably supposes his hearers destitute of all grace, that he may shine the more in his own eyes by comparison. When he has performed this notable task, he wonders that they are not converted: ‘he has given it them soundly, and if they do not tremble, and confess that God is in him of a truth, he gives them up as reprobate, incorrigible, and lost for ever.’” On one occasion, I heard a very worthy clergyman utter from the pulpit, the following sentiment. “When I shall be in heaven, my friends (which I hope to be), how I shall be grieved when I miss some of you there, to whom I have ministered on earth!” It was Self-Esteem and Benevolence which prompted him to use these expressions, and both organs were large in his head.

¹ *Phrenological Journal*, ii. 216.

Under the influence of this faculty, some authors fall unconsciously into the excessive use of pronouns of the first person. The following example is taken from the works of Dugald Stewart, who was familiarly known among his friends by the appellation of "the amiable egotist." "When *I* first ventured to appear before the public as an author," says he, "*I* resolved that nothing should ever induce *me* to enter into any controversy in defence of *my* conclusions, but to leave them to stand or fall by their own evidence. From the plan of inductive investigation which *I* was conscious of having steadily followed, as far as *I* was able, *I* knew that whatever mistakes might be detected in the execution of *my* design, no such fatal consequences were to be dreaded to *my* general undertaking, as might have been justly apprehended, had *I* presented to the world a connected system, founded on gratuitous hypothesis, or on arbitrary definitions. The detections, on the contrary, of *my* occasional errors, would, *I* flattered *myself*, from the invariable consistency and harmony of truth, throw new lights on those inquiries which *I* had conducted with greater success; as the correction of a trifling misstatement in an authentic history is often found, by completing an imperfect link, or reconciling a seeming contradiction, to dispel the doubts which hung over the more faithful and accurate details of the narrative.

"In this hope *I* was fortified by the following sentence of Lord Bacon, which *I* thought *I* might apply to *myself*, without incurring the charge of presumption: 'Nos autem, si qua in re vel male credidimus, vel obdormivimus et minus attendimus vel defecimus in via et inquisitionem abruptimus, nihilo minus IIS MODIS RES NUDAS ET APERTAS EXHIBEMUS, ut errores nostri notari et separari possint; atque etiam, ut facilis et expedita sit laborum nostrorum continuatio.'

"As this indifference, however, about the fate of *my* particular doctrines, arose from a deep-rooted conviction, both of the *importance* of *my* subject, and of the *soundness* of *my* plan, it was impossible for *me* to be insensible to such cri-

ticisms as were directed against either of these two fundamental assumptions. Some criticisms of this description *I* had, from the first, anticipated ; and *I* would not have failed to obviate them in the introduction to *my* former work, if *I* had not been afraid to expose *myself* to the imputation of prolixity, by conjuring up objections for the purpose of refuting them," &c.

Another amusing instance of a similar style of writing will be found in an account of himself by Flechier, bishop of Nismes, prefixed to an edition of his "Oraisons Funèbres," printed at Paris in 1802. I infer this to arise from a great endowment of Self-Esteem. A portrait of the author last named is prefixed to his work, and a strong expression of Self-Esteem appears depicted on the countenance. The portraits of Gibbon also indicate this expression in a remarkable degree.¹ By pointing out these tendencies of the faculty, persons in whom the organ is large will be put upon their guard to avoid such ludicrous modes of its manifestation.

Mr William Scott published, in the first volume of *The Phrenological Journal*, p. 378, an able exposition of the effects of a large Self-Esteem upon the character, when combined with each of the other faculties greatly developed ; and additional illustrations will be found in vol. ii. pp. 57, 58, 60, 213 ; iv. 495 ; viii. 306, 496, 592 ; ix. 64, 258, 412 ; vol. x. pp. 1, 157, 160, 293, 427, 608 ; xiv. p. 108 ; xv. pp. 199, 258, 357, 359, 362. Perhaps there is no faculty of which a weak endowment is so rarely found as of Self-Esteem.

¹ A ludicrous example of egotism in an antiphrenological Essay by the Rev. R. W. Hamilton of Leeds, is quoted in *The Phrenological Journal* (vol. iii. p. 473), where the following remark is made by the editor. "We have heard of an author whose MS. was detained in the press from his printer wanting a sufficient stock of capital *I*'s to set up a single sheet of his work ; but Mr Hamilton, it appears, far surpasses that famed composer. The present article has actually been returned to us, with an intimation, that it is difficult for our printers to find so many Roman capital *I*'s, *ME*'s, and *MY*'s as we had marked, and he has solicited to be allowed to use Italics. Our extracts extend to only *four pages* of Mr Hamilton's pamphlet ; what a store of *I*'s the sheet would have required !"

The feeling of individual personality has been supposed by some phrenologists to arise from this faculty ; and they have been led to this conjecture by the undoubted fact, that the prominence which the first person assumes in the mind, bears a proportion to the size of the organ of Self-Esteem.

Self-Esteem is an ingredient in the love of *uniques*. The high value attached by some persons to objects which no other person can possess, seems resolvable, to a great extent, into a gratification of this feeling. In possessing the article they enjoy a superiority over the whole world, and the consciousness of this confers on it great value in their estimation. Acquisitiveness is the other element of the taste.

The love of power and dominion owes its origin to Self-Esteem. The organ is large in the busts of Augustus Cæsar and of Bonaparte ; and I have observed that the same configuration occurs in those individuals who, in private life, aspire most eagerly to office, and who are most delighted with the possession of a little brief authority. From this faculty producing the love of power, it happens that those who are fondest of exercising dominion themselves, are the most violent opponents of authority when vested in other hands. They are the great advocates for liberty ; but are no sooner placed in possession of power themselves than they abuse it, and become tyrants. In short, when two individuals equally thirst for dominion, and when the one can rule only by the other obeying, it is easy to perceive that the subject will, in such a case, manifest little satisfaction under the yoke, and that his very love of authority will make him the most determined opponent of it in others. Self-Esteem gives rise to the spirit of independence.¹

Nations differ with regard to the degrees in which they possess this organ. It is large in the Chinese and Hindoos, and the English have more of it than the French : hence the manner of a genuine Frenchman appears to an Englishman to be fawning and undignified ; while the manner of an Englishman appears to the French cold, haughty, and su-

¹ See *The Phrenological Journal*, iii. 224.

percilious. The great Self-Esteem of the English, and their consequent innate aversion to all stretches of power, is probably one important cause of their political liberty. Dr Adam Ferguson has recognised the operation of this sentiment in maintaining their freedom. Alluding to the *habeas corpus* act, he remarks, that “it requires a fabric no less than the whole political constitution of Great Britain, *a spirit no less than the refractory and turbulent zeal of this fortunate people*, to secure its effects,”¹ Amongst savages, this organ is in general extremely active,² ignorant persons being usually found to have the highest opinion of themselves.

Self-Esteem, when eminently powerful, and not combined with the higher sentiments equally strong, causes the individual to carry his head high and reclining backwards. It gives a cold and repulsive expression to his manners, and it is particularly offensive to other individuals greatly endowed with the same faculty.

Dr Reid and Mr Stewart treat of this sentiment under the designation of the Desire of Power. Dr Thomas Brown calls it “pride,” and defines it as that feeling of vivid pleasure which attends the contemplation of our excellence.³ Dr Brown views the desire of power as a distinct primitive emotion; but Self-Esteem appears to me to be the fundamental feeling, and the love of power to be only one of the forms of its manifestation. It is quite conceivable, that a private individual, removed from all means of acquiring public authority, may manifest little appetite for dominion over the nation, though Self-Esteem be large; but he will be found to be proud, and to exercise a sovereign sway over his own household. This results from the same feeling differently directed. I have never seen a man fired with ambition for situations of command, in whom Self-Esteem was defective, or even moderate in size; so that there appears no adequate

¹ *History of Civil Society*, part iii. sect. 6.

² See instances, collected by Mr Robert Cox, in *The Phrenological Journal*, viii. 305.

³ *Lectures*, vol. iii. p. 297.

ground for assuming pride to be one primitive sentiment, and the love of power another and distinct original desire.

In treating of Acquisitiveness, I mentioned that the practical effects of that faculty are much modified by the endowment of Self-Esteem with which it is combined—selfishness being greatly increased by the combination of both in a large degree of development. Acquisitiveness desires to acquire wealth, and Self-Esteem to hold and apply it to selfish gratification. This organ appears to be possessed by the lower animals. The turkey-cock, peacock, horse, &c. manifest feelings resembling pride or Self-Esteem. “The master-ox,” says Lord Kames, “leads the rest into the stable, or into the fold, and becomes unruly if he be not let first out ; nay, he must be first yoked in the plough or waggon.”¹

Dr Gall, however, entertained views on this subject peculiar to himself. He mentions, that after having studied the sentiment of pride as a primitive mental quality, and its organ in the human race, he wished to ascertain whether his observations would be confirmed by the lower animals. He therefore examined the heads of such of them as we are accustomed to call proud—the race-horse, the cock, and the peacock. He did not find in any of these a remarkable development of the cerebral parts corresponding to the organ of Self-Esteem in man ; but he found a considerable development of these parts in animals in which he would never have thought of looking for it—that is to say, in those which voluntarily remain in the higher regions of the air, living on mountains and other elevated situations ; for example, in the roebuck, the chamois, the wild-goat, and certain species of eagles and falcons : and what struck him most was, that the parts in question were the more developed, in proportion to the greater height of the dwelling-places of the animals. Dr Gall himself was astonished at this observation. That a predilection for physical heights should, in animals, depend on the same organ as that to which the sentiment of Self-Esteem is referrible in man, appeared to him, at first, altogether improbable and inadmissible ; yet, says he, “I have

¹ *Sketches*, B. ii. Sk. 1.

laid down the rule to communicate the progress of my observations, as well as the manner in which they have given rise to my opinions. Opinions which have not facts for their basis, if not erroneous, are at least very likely to be so; and a natural historian ought to be less ashamed of committing an error in his interpretations of facts, than of founding his opinions on reasoning alone.” He accordingly enters into some interesting observations on the various dwelling-places of animals; directing the attention of his readers both to those which inhabit elevated regions, and to others which prefer the lowest situations; and he states, that, in all animals which have their abodes in high places, there is a lengthened eminence in the middle of the head, immediately above the organ of Philoprogenitiveness, and which entirely resembles the organ of Self-Esteem in man.¹

Dr Spurzheim holds that this prominence in the brains of the lower animals corresponds to the organ No. III. in man (named by him Inhabitiveness, and in this work Concentrativeness); and, while he admits the accuracy of the facts stated by Dr Gall, he differs from his conclusions, and says, that it is not the same organ which produces in man the sentiment of Self-Esteem, and, in the lower creatures, the love of physical heights; but that there are distinct organs both in man and the lower animals for these separate mental qualities. It appears to me, that Dr Spurzheim is correct in maintaining that the organ No. III. is distinct from that of Self-Esteem, both in the lower animals and in man; and the real extent of the difference between him and Dr Gall is this—Dr Spurzheim admits two organs lying between Firmness and Philoprogenitiveness, but Dr Gall only one: Dr Gall considers the whole of the intermediate cerebral parts as the organ in man of Self-Esteem, and, in animals, of the love of physical elevation; while Dr Spurzheim regards the upper portion of these parts as the organ of Self-Esteem, and the lower portion as the organ of Inhabitiveness, in both cases. Dr Vimont considers that three organs lie between Philo-

¹ *Sur les Fonctions du Cerveau*, tome iv. p. 279.

progenitiveness and Firmness, namely, Concentrativeness, Inhabitiveness, and Self-Esteem, and I am disposed to agree with him. See Concentrativeness, p. 232.

When Self-Esteem becomes excited by disease, the individual imagines himself to be a king, an emperor, a transcendent genius, or even the Supreme Being. Dr Gall mentions the case of a Monsieur B., in whom the organ was very large, and who was accidentally wounded by a nail in this part of the brain. While labouring under the influence of the wound, he felt himself as it were elevated above the clouds, and carried through the air, retaining, at the same time, and also manifesting during his convalescence, the same proud and haughty manners which had distinguished him during health.

“The organ,” says Dr G., “was equally conspicuous in an insane patient at Baden, near Rastadt. This man’s insanity consisted in believing himself a major. He had a small head, and the only organ which was developed in a high degree was that of Self-Esteem; the whole other convolutions of the brain being very small. In the charity workhouse of Fribourg, we saw an insane man who was extremely proud. He declared, in a vehement and pathetic tone, ‘qu’il est la souche’ by the aid of which God created and preserves the world; that he has been crowned by Jesus Christ; that he is the young man whom the Queen of Heaven has selected for her spouse. His attitude is that of an arrogant despot. Deeply inspired with sentiments of his high importance, he crosses his arms, and, to give an idea of the astonishing power which he possesses, he strikes his breast and sides with violence. In general, he stands with one foot placed before the other, the body erect, and a little inclined backwards. When I requested him,” continues Dr Gall, “to allow me to touch his head, he replied, with astonishing arrogance, ‘Ich habe keinen *Kopf*, sondern ein *Haupt* ;’ I have no head such as common men possess, but a *Haupt*, or head peculiar to kings and gods. He turned away, holding us to be totally unworthy of approaching him. We observed

however, distinctly, that he had the organ of Self-Esteem very largely developed."

Pinel, Foderé, and other writers on insanity, mention cases equally characteristic of disease of this organ. "A patient," says Pinel, "confined in a private asylum in Paris, during his fits, believed himself to be the prophet Mahomet, assumed an attitude of command, and the tone of the Most High ; ses traits étaient rayonnans, et sa démarche pleine de majesté. One day when cannon were fired in Paris on account of some events of the Revolution, he persuaded himself that it was to render him homage ; he caused silence to be observed around him, and could not restrain his joy." "A woman," continues the same author, "extremely imperious, and accustomed to make her husband obey with even more than docility, remained in bed part of the morning, and then insisted that he should come, and on his knees present her with drink. She ended by believing herself, in the ecstasies of her pride, to be the Virgin Mary." I have seen many cases similar to the foregoing, some of which are reported in *The Phrenological Journal*, vol. vi. p. 80.¹

In January 1839, Dr George M'Clellan of Philadelphia took me to see a young man of 21 years of age, a patient of his, whose case was briefly as follows. Nearly three years before, he had received a blow with a stone on the head, in the region of Self-Esteem. He was not stunned by it ; and as only a small swelling of the integuments ensued, he paid little attention to the injury. The swelling, however, continued to increase gradually, until at last it attained the size of about half of a turkey's egg, cut in the oblong direction. Dr Winn Bush now advised him to apply to Dr M'Clellan to have it removed. He did so ; and when this gentleman cut down on it, he found that the skull below it was disorganized, and that only one-half of the substance of the tumour stood above the level of the bone : the other half,

¹ See also Dr A. Combe's *Observations on Mental Derangement*, p. 175.

having depressed the falx and the dura mater, descended downwards, as he at first supposed, into the substance of the brain itself. He made a large incision in the skull, touching the posterior edges of Firmness and Conscientiousness, passing along the middle of Love of Approbation on each side, and along the lower margin of Self-Esteem; and he removed all the intermediate portion. He extracted the tumour, and saw a deep hollow, as he believed, in the brain. The patient sat upon a chair, and retained consciousness during the whole operation. He manifested great firmness. Dr Winn Bush believed that the organs of Firmness were those corresponding to the hollow. He communicated the case to me, immediately after the operation, as one strikingly at variance with Phrenology. I could offer no explanation, but requested to be allowed to see the patient, as soon as circumstances would permit, that I might judge for myself. A few days afterwards, Dr M'Clellan called and told me that Phrenology was not in so much danger as had been supposed, because the brain, since the operation, had risen up to the level of the skull, and obviously had never suffered any disorganization. It had only been depressed. At the next dressing of the wound, I was present. I then pointed out to these gentlemen, that the tumour had pressed on Self-Esteem and part of Love of Approbation, and only touched the posterior edges of Firmness and Conscientiousness. I saw the brain pulsating, and rising and falling with the respiration. I asked the patient, if any change had taken place in his feelings of Self-Esteem after the accident; and he answered, No. That organ and also Firmness were both very large in him. His recovery proceeded rapidly, and in about six weeks after this interview, he called for me, in company with Dr M'Clellan, and told me that, when he answered my question in the negative, his mind was weak, and his memory confused; but that, in point of fact, when in health, he had been remarkably self-willed, confident, and opinionative, so much so that he left his father's house against his will, and become an actor and ventriloquist in the West. After

the accident, although he felt that he retained all his powers of execution, he became so diffident that he trembled when he went on the stage, and was forced to abandon the pursuit. The question was put to me at the time, how it happened that the pressure exerted on the brain by this tumour did not suspend consciousness entirely, as in cases of depression of the skull without laceration of the integuments. The answer which I ventured to give, was, that in this case the pressure was applied very slowly, so that the circulation of the brain did not suffer any violent shock. It accommodated itself gradually to the circumstances; whereas, in the other cases alluded to, the injury was inflicted and attained its maximum instantaneously.

This organ is generally larger in men than in women; and more males are insane through pride than females. The organ is regarded as established. It is large in Haggart, Bellingham, and Dempsey, and moderate in Dr Hette. Dr Spurzheim's *Phrenology in Connexion with the Study of Physiognomy*, contains many examples of its large development. See Pl. x. fig. 1; xv. 1; xvi. 1; xvii. 1; xxii. 1; xxv. 2; xxvi. 2; xxvii. 1; xxviii. 1 and 2; xxix. 1, 2, 3, 4, 5, 6. The organ is represented small in Pl. x. fig. 2; and xv. 2.

11. LOVE OF APPROBATION.

THIS organ is situated on each side of that of Self-Esteem, and commences about half an inch from the lambdoidal suture. When large, it produces a remarkable fulness and breadth in the upper and back part of the head. From its situation, it cannot be brought into line, so as to be represented successfully by figures, similar to those used in illustration of the other organs. The reader may, however, inspect the valuable work of Dr Spurzheim, just referred to, Pl. xvi. fig. 1; xxii. 1; xxiv. 2; xxvii. 1; and particularly xxviii. 1, representing the head of Lalande.

When Dr Gall was occupied in making observations on

the organ of Self-Esteem, he met with a woman in a lunatic asylum who conceived herself to be the Queen of France. He expected to find the organ of that sentiment largely developed ; but, in place of this, there was a very distinct hollow in the situation of it, and a round and considerable prominence presented itself on each side. This circumstance at first occasioned to him considerable embarrassment. He soon perceived, however, that the character of this woman's insanity differed materially from that of men alienated through pride. The latter were grave, calm, imperious, elevated, arrogant ; and they affected a masculine majesty. Even in the fury of their fits, all their motions and expressions bore the impress of the sentiment of domination which they imagined themselves to exercise over others. In the patients insane through vanity, on the other hand, the whole manner was different. There was then a restless frivolity, an inexhaustible talkativeness, the most affected forwardness ; eagerness to announce high birth and boundless riches, promises of favour and honour—in a word, a mixture of affectation and absurdity. From that time, Dr Gall perceived the difference between the sentiment of Self-Esteem and that of Love of Approbation.

He draws, with great accuracy, the distinction between pride, which is an abuse of Self-Esteem, and vanity, an abuse of Love of Approbation. The *proud* man, says he, is imbued with a sentiment of his own superior merit, and, from the summit of his grandeur, treats with contempt or indifference all other mortals ; the *vain* man attaches the utmost importance to the opinions entertained of him by others, and seeks with eagerness to gain their approbation. The *proud* man expects that mankind will come to him and acknowledge his merit ; the *vain* man knocks at every door to draw attention towards him, and supplicates for the smallest portion of honour. The *proud* man despises those marks of distinction, which on the *vain* confer the most perfect delight. The *proud* man is disgusted by indiscreet eulogiums ;

the *vain* man inhales with ecstasy the incense of applause, although profusely offered, and by no very skilful hand.¹

Although Dr Gall has thus strikingly discriminated between pride and vanity, he dwells at greater length on the abuses of this faculty, under the names of vanity, ambition, and the love of glory, than on the primitive sentiment itself. To Dr Spurzheim is due the merit of elucidating the ultimate principle of many of the faculties, and of directing attention to their legitimate spheres of activity ; and, in particular, he has done this in regard to the one under consideration.

This faculty produces the desire of approbation, admiration, praise, and fame. Hence it renders us anxious to please those whose approval is valued, and makes us attentive to the opinions which others entertain of us. The object of its desire is approbation in general, without determining the means or the manner of acquiring it. The direction in which its gratification will be sought, will depend on the faculties with which it is combined in the individual. If the moral sentiments and intellect are vigorous, it will prompt to moral emulation and the desire of honourable fame. It may thus animate the poet, the painter, the orator, the warrior, and the statesman. In some individuals it attains the height of a passion, and then glory is pursued at the hazard of life and of every enjoyment which it affords, and fame is sought for even in the cannon's mouth. "Themistoclem illum," says Cicero, "summum Athenis virum, dixisse aiunt, cum ex eo quæreretur, quod acroama, aut cujus vocem libentissime audiret ? Ejus, à quo sua virtus optime prædicaretur." Cicero himself seems to have possessed this sentiment in a very high degree : "Trahimur omnes laudis studio," says he, "et optimus quisque maxime gloriâ ducitur. Ipsi illi philosophi, etiam in illis libellis quos de contemnenda gloria scribunt, nomen suum inscribunt ; in eo ipso, in quo prædicationem nobilitatemque despiciunt, præ-

¹ Gall *Sur les Fonctions du Cerveau*, tome iv. p. 297.

dicari de se ac nominari volunt.”¹ The same ideas are thus expressed by Montaigne: “Of all the follies of the world, that which is most universally received is the solicitude of reputation and glory; which we are fond of to that degree, as to abandon riches, peace, life, and health, which are effectual and substantial goods, to pursue this vain phantom and empty word. And of all the irrational humours of men, it should seem that even the philosophers themselves have the most ado, and do the latest disengage themselves from this, as the most resty and obstinate of all human follies.”² The organ is very large in the American Indians;³ and the love of decorations and ornaments, whether these consist of stars, garters, and medals, or of tatooed faces, bored noses, and eagles’ feathers, springs from it. The faculty is strongly displayed by the Cingalese.⁴

If the lower propensities predominate, the individual may be pleased by the reputation of being the best fighter or the greatest drinker of his circle. “The disgusting scenes,” says Dr Vimont, “which accompanied the French Revolution, are still an enigma to many historians and foreigners, who do not know how to reconcile such acts with the naturally soft and benevolent dispositions of the French. Nothing, however, admits of a more easy explanation, if we attend to the predominating qualities of the principal leaders of this great drama. The heads of Robespierre, Fouquier, Tinville, Marat, &c., shew an enormous development of the organs of the propensities, particularly of that of Love of Approbation, with a feeble development of those of the moral sentiments. They cared little about the means, provided they enabled them to accomplish their objects.”⁵

There is a great difference in regard to the degree of en-

¹ *Oratio pro Archia.* ² *Essays*, B. I. Ch. 41, Cotton’s Translation.

³ See *Phren. Journ.*, ii. 537.

⁴ *Phren. Journ.*, vii. 639. Various illustrations of Love of Approbation will be found in vol. ii. p. 64; viii. 590, 592, 428; ix. 66, 414.

⁵ *Traité de Phrénologie*, tome ii. chap. x. sect. 1.

dowment of this faculty, in different individuals. Some watch, with the most animated anxiety, our every motion and every look, and intuitively feel when we approve or disapprove. When we approve, the eye sparkles, the countenance opens, and the individual approaches us with a pleasing courtesy, expressive at once of the pleasure he has received from our approbation, and of his desire to retain it. He, on the other hand, in whom the faculty is naturally feeble, shews, by the undisturbed fixture of his countenance, that our censure and applause are alike unimportant to him. When we censure, he stares us in the face with calm indifference, or gapes in stupid wonder.

A due endowment of this faculty is indispensable to an amiable character. It gives the desire to be agreeable to others ;—it is the drill-serjeant of society, and admonishes us when we deviate too widely from the line of march of our fellows ;—it induces us to suppress numberless little manifestations of selfishness, and to restrain many peculiarities of temper and disposition, from the dread of incurring disapprobation by giving offence ;—it is the butt upon which wit strikes, when, by means of ridicule, it drives us from our follies. To be laughed at is worse than death to a person in whom this sentiment is strong.

The feeling which is most commonly experienced when this organ is large, even when favourably combined with other organs, is anxiety about what the world will think of us. A youth in whom it is powerful cannot do this thing, because every body will look at him ; or cannot do the other, because people will wonder. In older persons, it produces a fidgety anxiety about the opinion of the public, or of the circle of acquaintances who compose the public to them. If Self-Esteem also is powerful, they imagine themselves continually before the public eye, and that the world is occupied with little else than weighing their motives, speculating on their conduct, and adjusting the precise point in the scale of importance and respectability at which they ought to be placed. A great portion of this feeling, however, is the mere inspira-

tion of great Self-Esteem and Love of Approbation in their own heads. The public are too much engrossed with themselves and their own affairs, to bestow so minute and permanent a degree of attention upon an individual. This anxiety about public opinion, when too great, is subversive of happiness and independence. It renders the mere *dicta* of the society in which the individual moves, his code of morality, religion, taste, and philosophy ; and incapacitates him from upholding truth and virtue, if disowned by those whom he imagines influential or genteel. The want of a philosophy of mind allows wide scope to the aberrations of this faculty ; for, in the absence of well-defined principles of taste and conduct, individuals of high pretension dictate, with success, fashions however absurd, which the herd of mankind follow.

The characteristic difference between the disposition to oblige conferred by this sentiment, and the feeling of genuine kindness which springs from Benevolence, is, that Love of Approbation prompts us to do most for those who least require our aid, whereas Benevolence takes exactly the opposite direction. Men, in general, care little for the approbation of their inferiors, their own household, or those of whom they are altogether independent ; and he whose exertions are inspired chiefly by this faculty, will do extremely little to benefit them. To serve or please the great and the powerful, on the other hand, or strangers whose voice may raise or depress his fame, he will make the most animated exertions. Persons, accordingly, in whom Love of Approbation is very strong, and Benevolence and Conscientiousness deficient, are frequently the most agreeable acquaintances to those who are altogether independent of them ; “ they smile on all who care not for their frowns,” while they neglect or torment their inferiors and equals.

No faculty is more prone to run into excess than Love of Approbation ; and hence it has served as a fertile theme to the satirist in every age. The *Characters* of Theophrastus

contain some happy sketches in ridicule of its inordinate manifestations. In Young's *Love of Fame*, also, there are many striking passages descriptive of the absurdities into which it leads mankind. The diversified forms in which its activity appears, are well exposed by the following lines in *Satire First*.

“The love of praise, howe'er conceal'd by art,
Reigns, more or less, and glows in every heart :
The proud, to gain it, toils on toils endure ;
The modest shun it, but to make it sure.
O'er globes and sceptres, now on thrones it swells,
Now trims the midnight lamp in college cells ;
'Tis Tory, Whig ; it plots, prays, preaches, pleads,
Harangues in senates, squeaks in masquerades :...
It aids the dancer's heel, the writer's head,
And heaps the plain with mountains of the dead ;
Nor ends with life, but nods in sable plumes,
Adorns our hearse, and flatters on our tombs.”

This faculty is too much cultivated in education, by being almost universally appealed to as the chief stimulus to exertion and good behaviour. In infant-schools, however, conducted on Mr Wilderspin's plan, prizes and place-taking are dispensed with, and the result is most satisfactory. It is only where the subjects of study are unsuitable to the minds of children, or improperly taught, that Love of Approbation requires to be strongly appealed to.¹

Combined with Secretiveness large, and Conscientiousness deficient, it prompts its possessor to pay to others those unmeaning compliments which pass current in society, and which most persons receive well when addressed to themselves, but treat with ridicule when bestowed lavishly on others.

When the development of Love of Approbation is excessive, while the regulating organs are deficient, it is the cause of great unhappiness. It renders the little girl at

¹ *Phren. Journ.* v. 613 ; x. 9 ; and Simpson's *Necessity of Popular Education*, p. 148.

school miserable, if her dress and the style of living of her parents are not equal to those of the parents of her associates. It overwhelms the artist, author, or public speaker, with misery, if a rival is praised in the journals in higher terms than himself. A lady is tormented by perceiving in the possession of her acquaintance, finer dresses or equipages than her own. It excites the individual to talk of himself, his affairs and connexions, so as to communicate to the auditor vast ideas of his greatness or goodness; in short, vanity is one form of its abuse. "Sir," says Dr Johnson, "Goldsmith is so much afraid of being unnoticed, that he often talks, merely lest you should forget that he is in the company." When not combined with Conscientiousness and Benevolence, it leads to feigned professions of respect and friendship; and many manifest it by promises and invitations, never intended to be fulfilled or accepted. It, as well as Self-Esteem, prompts to the use of the first person; but its tone is that of courteous solicitation, while the *I* of Self-Esteem is presumptuous, and full of pretension.

When, on the other hand, the organ is deficient, and the sentiment, in consequence, is feeble, the individual cares little about the opinion entertained of him by others; and, provided they have not the power to punish his person, or abridge his possessions, he is capable of laughing at their censures, and contemning their applause. Persons of this sort, if endowed with the selfish propensities in a strong degree, constitute what are termed "impracticable" men; their whole feelings are concentrated in self, and they are dead to the motive which might induce them to abate one iota of their own pretensions to oblige others. If actuated by any strong passion, and endowed with intellect, it is astonishing what they are sometimes able to accomplish in attaining their objects. Strangers to ceremony, and indifferent to censure, they meet with a thousand rebuffs which they never feel, and are loaded with an hundred indignities which never affect them: free from the restraints which delicacy imposes upon others, they practise upon the benevolence, the disposition to

oblige, or the interest, of mankind, and succeed in circumstances in which a sensitive mind would have found only obstacles unsurmountable.

Philosophers and acute observers of human nature have long distinguished between pride and vanity;¹ but, nevertheless, no error is more frequently committed by ordinary minds than to confound them; and no mistake is more common than to imagine that beaux and belles, and all who are very tasteful and particular about their personal appearance or equipages, are necessarily extremely conceited. A large Love of Approbation and much Ideality, joined with Individuality, which produces attention to details, and Order, will, in general, give rise to the passion for neatness, propriety, and ornament; but such a combination, instead of producing a proud or conceited character, inspires with the very opposite dispositions. I rarely see a *dandy* who is not at bottom a polite, obliging, good-natured, but probably weak individual; and it is only when large Self-Esteem, which is not an indispensable ingredient in beauxism, is added to the combination, that the common opinion will be justified by the result.

This faculty corresponds to the Desire of Esteem of Dr Reid and Mr Stewart, and to the Desire of Glory of Dr Thomas Brown. The observations of these philosophers on its functions are generally correct; but here, as in the case of Self-Esteem, they treat chiefly of its heroic manifestations, and present us with almost no views of its operations in the more interesting theatre of private life.

The faculty, when powerful, gives a tendency to carry the head backward, and a little to the side; it communicates a soft soliciting tone to the voice, puts smiles into the countenance, and produces that elegant line of beauty in the lips which resembles Apollo's bow.

On 15th May 1839, I was introduced to James J. Mapes, Esq., a scientific gentleman, residing in 461 Broadway, New

¹ "Pride makes us esteem ourselves; vanity makes us desire the esteem of others. It is just to say, as Dean Swift has done, that a man is too proud to be vain."—*Blair's Lectures*, lect. 10.

York. His daughter fell from a window when she was about four years of age ; her head struck against the iron-bar which extended from the railing to the wall, and the skull was extensively fractured, but without rupturing the pia mater, or doing any serious injury to the brain. She was attended by Dr Mott ; a part of the skull was removed from the superior-posterior portion of the head, the integuments were drawn over the wound, and the child recovered. The part of the skull removed was that which covers the organs of Self-Esteem and Love of Approbation. She does not wear any plate over the wound ; but the hair over it, like that on the other parts of the head, is fine, and is kept short.

When I saw the child, she was eight years of age, healthy and intelligent ; and no external trace of the injury was visible to the eye. The form of her head was that of a superior female child : It was long, and moderately broad at the base ; Secretiveness, Love of Approbation, Self-Esteem, Cautiousness, and Firmness, are all large ; Benevolence and Veneration are well developed, and the anterior lobe was large. I saw the pieces of the skull which had been removed. They might be three and a half by three inches in superficial extent. The skull has not been replaced. On applying my hand, I felt the brain rising and falling with the respiration, and distinctly ascertained that the organs of Self-Esteem and Love of Approbation were denuded of the skull ; also a small part of Conscientiousness, and the posterior margin of Firmness. Her father mentioned that, before the accident, he considered her rather dull ; but her mother (whom also I had the pleasure of seeing) did not concur in this opinion ; both, however, agreed that since her recovery she had been acute, and fully equal to children of her own age in point of ability.

With the permission of her father and mother, I kept my hand for some minutes gently pressing on the external integuments over the site of the injury, and distinctly felt a considerable movement, a swelling up and pulsation,¹ in the organs

¹ I consider the swelling up and pulsation to have arisen from an increased flow of blood into the convolutions, as the accompaniment of their increased activity.

of Self-Esteem ; and the same movements, but in a less degree, in those of Love of Approbation. When I began to talk to the child, she was shy and bashful, and at first would scarcely speak. The vivid movements in Self-Esteem indicated that, amidst her extreme bashfulness, this organ was active. As I continued to converse with her, and succeeded in putting her at her ease, the movements in Self-Esteem decreased, while those in Love of Approbation continued. I spoke to her about her lessons and attainments, not in flattering terms, but with the design of exciting Self-Esteem ; and the movements increased. Again I soothed her, and they diminished. This was repeated, and the same results ensued. Her father gave her several questions in mental arithmetic to solve ; she was puzzled, and made an intellectual effort, and the peculiar movements in the organs of Self-Esteem and Love of Approbation ceased ; only a gentle and equal pulsation was felt. She solved the question, and we praised her : the peculiar movements in Self-Esteem and Love of Approbation returned and increased. This experiment was repeated at least four times, with the same results. I took out a piece of paper and began to write down notes, in pencil, of what had occurred. She looked at my writing ; and as all attention was now withdrawn from herself, and her mind was occupied intellectually in observing what I was doing, I placed my hand on the integuments, and only the gentle and regular pulsations of the arterial system were perceptible.

I am much indebted to Mr Mapes, the father of the child, for permitting me not only to see this very interesting case, but to publish his name and residence, so that my remarks may be verified, or corrected, if I have erred.

This case is replete with instruction in practical education. It tends, so far as one example can go, to prove that, by exercising the intellectual faculties, we do not necessarily excite the feelings ; and also that each feeling must be addressed by objects related to itself before it can be called into action¹

¹ Some years ago a similar case was reported by Mr John Gratton of Belfast in the *Phrenological Journal*, vol. ix. p. 473, and vol. x. p. 11.

As formerly mentioned, the French are remarkable for a large development of this organ, while the English excel in Self-Esteem. The influence of the Love of Approbation shews itself in the manners, institutions, and daily literature of France, in an extraordinary degree. Compliments and praises are the current coin of conversation ; and a late writer most justly observes, that, “ in France, glory is the condiment to the whole feast of life, and the trumpet of fame is that which makes the sweetest music to their ears.”¹ In private life also, an individual who has much Love of Approbation himself, is extremely prone to pay compliments to others, from an instinctive feeling of the pleasure of being praised, and to believe that in this way he renders himself highly agreeable.

The faculty is generally more active in women than in men ; and it is observed, that a greater number of women than of men become insane from this feeling. Dr Spurzheim mentions, that he had met with only one man who had become deranged from this cause. Its effects, when diseased, have already been described in the history of the discovery of the organ.²

The organ is possessed by the lower animals. The dog is extremely fond of approbation, and the horse displays the sentiment, not only in his sensibility to marks of affection, but in his spirit of emulation in the race. Dr Gall mentions, that, in the south of France, the peasants attach a *bouquet* to the mules when they have acquitted themselves well, and that the animals understand it as a mark of approbation, and feel afflicted when it is taken away. He mentions also, that he had a female monkey, who, on receiving a handkerchief, put it on as a robe, and took extraordinary delight in seeing it trail behind her as a train. In all these creatures the organ is largely developed.

The organ is large in Dr Hette, the Reverend Mr M.,

¹ *Edinburgh Review*, Nov. 1820, p. 294.

² See also Dr A. Combe's *Observations on Mental Derangement*, p. 174.

King Robert Bruce, and Clara Fisher; and deficient in D. Haggart and Dempsey. See Remarks on this faculty in *Phrenological Journal*, x. 160.

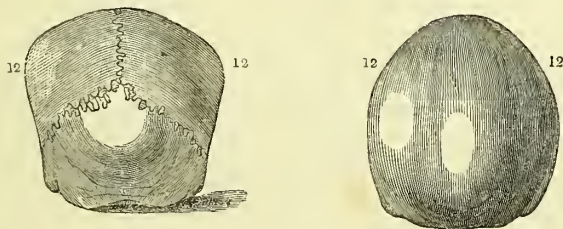
The organ is regarded as established.

12.—CAUTIOUSNESS.

THIS organ is situated near the middle of each parietal bone, where the ossification of the bone generally commences.

The figures represent its appearance when large and small.

CINGALESE BOY.



Dr Gall was acquainted at Vienna with a prelate, a man of excellent sense and considerable intellect. Some persons had an aversion towards him, because, through fear of compromising himself, he infused into his discourses interminable reflections, and delivered them with unsupportable slowness. When any one began a conversation with him, it was very difficult to bring it to a conclusion. He paused continually in the middle of his sentences, and repeated the beginning of them two or three times before proceeding farther. A thousand times he pushed the patience of Dr Gall to extremity. He never happened by any accident to give way to the natural flow of his ideas; but recurred a hundred times to what he had already said, consulting with himself whether he could not amend it in some point. His manner of acting was in conformity with his manner of speaking. He prepared with infinite precautions for the most insignificant

undertakings. He subjected every connexion to the most rigorous examination and calculation before forming it.

This case, however, by itself was not sufficient to arrest the attention of Dr Gall; but this prelate happened to be connected in public affairs with a councillor of the regency, whose habitual irresolution had procured for him the nickname of *Cacadubio*. At the examination of the public schools, these two individuals were placed side by side, and Dr Gall sat in the seat immediately behind them. This arrangement afforded him an excellent opportunity of observing their heads. The circumstance which most forcibly arrested his attention was, that both their heads were very broad in the upper, lateral, and hind parts, the situation of the organ in question. The dispositions and intellectual qualities of these two men were, in other respects, very different; but they resembled each other in circumspection, and also in this particular development of head. The coincidence between them in this point suggested the idea to Dr Gall, that irresolution, indecision, and circumspection, might be connected with certain parts of the brain. Subsequent reflection on this disposition, and observation of additional facts, converted the presumption into certainty.

It is a principle in Phrenology, that the absence of one quality never engenders another. Every feeling is something positive in itself, and is not a mere negation of a different emotion. Fear, then, being a positive sentiment, is not the mere want of courage; and it appears to me that the faculty now under discussion produces that feeling. It causes the individual to apprehend danger; and this leads him to hesitate before he acts, and to look to consequences that he may be assured of his safety. Dr Spurzheim names it "Cautiousness,"—which appellation I retain as sufficiently expressive, although the primitive feeling appears, on a rigid analysis, to be simply fear. Dr Gall says, "It was requisite that man and animals should be endowed with a faculty to enable them to foresee certain events, to give them a presentiment of certain circumstances,

and to prompt them to provide against danger. Without such a disposition, their attention would have been occupied only with the present; and they would have been incapable of taking any measures with reference to the future." Accordingly, he describes the faculty which gives the tendency to these actions, as if it comprised something intellectual; and he calls it "*Circumspection, Foresight.*" Dr Spurzheim "does not believe that it foresees; it is, in his opinion, blind, and without reflection, though it may excite the reflective faculties." This observation appears to me correct.

Dr Vimont names this the "Organ of Circumspection,"¹ and attributes the sentiment of fear to the organ of the Love of Life, treated of on p. 292. He supports this opinion by the fact that the natural movement of the body, when threatened with danger, is to draw itself together downwards, as may be observed when a heavy object is seen falling on us from above, or when we approach the edge of a steep precipice, or look over the wall of a high tower, without a sufficient height of parapet to assure us of safety. I acknowledge that the movement which he describes is manifested when life is in danger, that it corresponds precisely with the situation of the organ of the Love of Life, and that this feeling is then powerfully and painfully affected; but I beg leave to remark, that fear is a general emotion which may be conjoined in activity with any of the other faculties, and that in this instance it is obviously acting in combination with the instinct of self-preservation. I have seen a man in whom Acquisitiveness and Cautiousness were large, threatened with the loss of a considerable sum of money which he had lent on an insufficient mortgage, and he was in an ecstasy of fear; yet, as his life was not in danger, he did not manifest the natural language before described. A run on a bank is a manifestation of fear in great activity in its creditors, yet men, in running to a banking-house to uplift their deposits, do not draw their bodies down and together, as if

¹ *Traité de Phrenologie*, tome ii. p. 167.

great beams were falling on them. I have seen a mother in whom Philoprogenitiveness and Cautiousness were both large, in a state of painful fear, because her beloved son had not returned from a neighbouring village at the hour in the evening at which she expected him ; and yet, as her own life was in no danger, she did not manifest the natural language before described. These terrors appeared to me to arise from Cautiousness acting in combination with the organs which were threatened with deprivation of their objects, and the natural language was that of fear. It is difficult to understand how the instinct of self-preservation, when acting in circumstances in which life is not in peril, even although combined with other organs, should produce the dread of losing money, or children, or friends, or fame. It appears more philosophical to regard the instinct of the love of life as a primitive feeling, manifested by its own organ ; and fear to be a distinct sentiment, also manifested by an organ peculiar to itself. On this latter supposition the mental phenomena mentioned can be more satisfactorily explained.

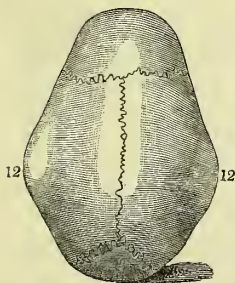
A full development of this organ is essential to a prudent character. It produces a cautious, circumspect, and considerate disposition of mind. Persons so organized, says Dr Gall, "are habitually on their guard ; they know that it is more difficult to sustain than to acquire reputation, and consequently, every new undertaking is prosecuted as carefully as the first. They look forward to all possible dangers, and are anxious to anticipate every occurrence ; they ask advice of every one, and often, after having received much counsel, remain undecided. They put great faith, in the observation, that, of a hundred misfortunes which befall us, ninety-nine arise from our own fault. Such persons never break any article ; they may pass their lives in pruning trees, or in working with sharp tools, without cutting themselves. If they see a vessel placed near the edge of the table, their nerves shrink. If they give credit, or indulge in gambling, they never lose large sums of money. Finally," says he, "they form a standing subject of criticism to their less con-

siderate neighbours, who look on their forebodings as extravagant, and their precautions as trifling and absurd.”¹

In treating of Cautiousness in his lectures on Phrenology, Dr Broussais introduces remarks on Cuvier and Dupuytren. Dupuytren was the celebrated surgeon in the Hotel Dieu, a man of great talents and decision of character. “He calculated all his actions,” says Dr Broussais, “and all his words. He never used an expression, or executed a gesture, of which the effect was not foreseen. He practised one manner with the student,—another with the patient of the lower orders,—another with the patient of the higher class,—another was reserved for princes,—another, differently graduated, was exhibited towards his professional brethren, and to them alone,—and, finally, still another for the public in his gratuitous consultations. His head was enormously large in the region of Cautiousness, as appears in his cast. Cuvier also was a man who calculated all his actions, whose ambition was to raise himself at once by politics and science. He had Cautiousness extremely large.”

When the organ is too large, it produces doubts, irresolution, and wavering; and may lead to absolute incapacity for vigorous and decisive conduct. A great and involuntary activity of it produces a *panic*—a state in which the mind is hurried away by an irresistible emotion of fear, for which no adequate external cause exists.

The organ is almost uniformly large in children, and appears, from this circumstance, to be developed at an earlier age than many of the other organs. This is a wise provision of nature; as caution is never more indispensable to the safety of the individual, than during the helpless years of infancy and childhood. The cut represents a top view of the skull of the Cingalese boy already figured on p. 369. Children possessing a large endowment



¹ *Sur les Fonctions du Cerveau*, tome iv, p. 320.

may be safely trusted to take care of themselves; they will rarely be found in danger. When, on the other hand, the organs are small in a child, he will be a hapless infant; fifty keepers will not supply the place of the instinctive guardianship performed by adequate Cautiousness. In a boy of six years of age it was very small, and he took off his clothes to leap into an old quarry full of water to recover his cap, which the wind had blown into it; totally insensible to the danger, which was imminent, of being drowned. In some very young children, the organs are so prominent as to alarm mothers with the fear of disease or deformity. Water in the head indeed frequently shews itself by an enlargement of this part of the skull, but it is not uncommon for unskilful persons to mistake a natural and healthy development of the organ in question, for an indication of that malady.

In mature age, when the organ is very deficient, the individual is rash and precipitate. He is never apprehensive about the results of his conduct, and often proceeds to act without due consideration. Persons of this description are frequently of a gay, careless disposition, and engrossed entirely with the present; they adopt rash resolutions, and enter upon hazardous enterprises, without deliberation or advice. In domestic life, misfortunes overtake them in consequence of their want of precaution. From constitutional recklessness they precipitate themselves against objects in the dark; they break frangible articles, owing to want of precaution in arranging them; and lose the money which they lend, by omitting to take proper security for repayment. Riding upon a slippery path, quite insensible to danger, their horse falls and deprives them of life. A cat, or other animal, overturns the candle which they have left burning, and sets their house on fire. In short, they are subject to interminable misfortunes, through want of caution in their conduct.¹

This faculty produces a repressing influence, and, in esti-

¹ Gall *Sur les Fonctions du Cerveau*, tome iv. p. 319.

inating its effects, the faculties with which it is combined should be kept in view. An individual with large Acquisitiveness and Self-Esteem, which produce instinctive selfishness, was pointed out to me as remarkably careful of his own interest, although the organ of Cautiousness was deficient in his head. It was admitted, however, that his prudence consisted chiefly in resisting solicitations to perform generous actions, and to enter into suretiship ; but that, when a tempting prospect of gain was held out to him, although attended with great risk, he was liable to dash into the adventure, and in consequence frequently sustained severe losses. His natural dispositions rendered him little prone to excessive generosity, and in that respect no danger awaited him ; but if Cautiousness had been large, it would have kept him alive to the perils of speculation, and prompted him to prefer small and certain profits to the chances of great but uncertain gain.

Extreme and involuntary activity of this faculty produces internal sensations of dread and apprehension, highly distressing to the individual, although often very ridiculous in the eyes of ignorant spectators. The character of "the fearful man," depicted by Theophrastus, may be referred to as an excellent illustration. Many persons believe that the feelings of the mind depend upon the dictates of the understanding, and that individuals, if they would allow themselves to be convinced of the groundlessness of their apprehensions, might, by an act of volition, remove the terrors which oppress them. Such notions argue great ignorance of human nature. As easily can we remove a pain from the leg, by resolving to be quit of it, as can the unhappy sufferer under diseased Cautiousness, dispel the mental gloom by which he is afflicted.

A large development of this organ, combined with much Destructiveness, predisposes to self-destruction. Cautiousness does not produce suicide as a specific act ; but the sentiment, when stimulated to excess by disease of the organs,

gives rise to intense melancholy, anguish, and anxiety, and, by rendering life extremely miserable, indirectly prompts to this result. Hence the fact, that the best of men, and those in whose external circumstances no adequate motive can be found, are sometimes led to that fatal deed. Let no one suppose such an act done from mere error in judgment. It proceeds from internal and involuntary feelings of a diseased nature, of the misery and torment of which, no man who has never felt any thing similar, can form an accurate conception. The great ignorance of mankind in general, regarding the state of mind which predisposes to suicide, has arisen from the influence of the organs being entirely overlooked, and from the fact not being known, that disease in any of them deranges the character of the sane feeling which it serves to manifest, and often renders it independent of the will. Dr A. Combe examined a considerable number of suicides, in the Morgue at Paris, and found in them Hope generally small, with Cautiousness and Destructiveness large; and I have seen several similar examples.¹ Dr Vimont differs from this opinion, and ascribes the tendency to melancholy and to suicide, “à une mode d’organisation particulière du système nerveux cérébral, augmenté sans doute par le développement ou le défaut d’action de certaines facultés, mais dans des proportions qui n’ont pas été étudiées sur un assez grand nombre d’individus pour avoir tous les caractères d’une chose démontrée.” I admit that diseased Cautiousness is not the only cause of suicide. I examined the head of a lad of fourteen years of age, who had just hanged himself in a fit of passion because his elder brother, with whom he lived, had given him a beating for staying out to unseasonable hours at night. In him the organs of Self-Esteem, Firmness, and Destructiveness, were very largely developed, while those of Reflection and the moral sentiments were deficient. But my observations warrant me in continuing to believe, that diseased Cautiousness, with deficient Hope,

¹ See *Phrenological Journal*, vi. 77 ; ix. 136.

is one, and a very general cause, of the tendency to self-destruction. In certain states of cerebral excitement, however, the same tendency rushes into the mind, unconnected with melancholy, and I infer that, in these instances, the seat of the diseased affection is Destructiveness and the organ of the Love of Life.

Many instances of disease of this organ occur, not only in hospitals for the insane, but in private life. Dr Gall mentions, that, at Vienna, he attended two fathers of families in easy circumstances, who, nevertheless, were tormented night and day by the apprehension that their wives and children were exposed to die of hunger. The most earnest assurances of their friends were insufficient to make them comprehend that this fear was altogether chimerical. After their recovery, they could not bear to hear their condition mentioned, through terror of a relapse. Before their malady, they were known to be men of gloomy dispositions.

Pinel, under the head of Melancholy, mentions a variety of cases referrible to diseased Cautiousness. "A distinguished military officer," says he, "after fifty years of active service in the country, was attacked with disease. It commenced by his experiencing vivid emotions from the slightest causes: if, for example, he heard any disease spoken of, he immediately believed himself to be attacked by it; if any one was mentioned as deranged in intellect, he imagined himself insane, and retired into his chamber full of melancholy thoughts and inquietude. Every thing became for him a subject of fear and alarm. If he entered into a house, he was afraid that the floor would fall, and precipitate him amidst its ruins. He could not pass a bridge without terror, unless impelled by the sentiment of honour for the purpose of fighting."

The forms in which this affection shews itself are numberless. It is in vain to address the understanding of the patient by argument; because the disease consists in a disordered state of a corporeal organ, and the only consequence of the most irresistible demonstration to the intellect, would

be a change of the object of terror, but no alleviation of the feelings of painful apprehension itself.¹

Dr Gall mentions, that this organ is possessed in a high degree by those of the lower animals which venture out only during the night, as owls and bats ; and also by those animals which place sentinels to warn them of approaching danger, as the wild goose, chamois, crane, starling, and buzzard. Among the lower animals, it is generally larger in females than in males ; and Dr Gall mentions some curious facts, illustrative of the greater manifestation of the faculty by the former than by the latter. He happened to kill so many as twenty squirrels, without finding a single female among them ; although it was not the season in which they are confined by the care of their young. He caught, during three years, forty-four cats in his garden, among which he found only five females. During one winter five hundred bears were killed in two provinces of Virginia, among which only two females were discovered. An account of the wolves destroyed in France from 1st January 1816 to 1st January 1817, was published officially by Count Gerardin, Captain of the Royal Chase : it shewed 1894 males, and only 522 females. Among the goats, the leader is always a female, and their safety, it will be recollected, arises from a high degree of circumspection. Among wild cattle, horses, and other animals which are defended by courage, the leader is uniformly a male, for, in this sex, Combativeness is usually larger. This fact, of females in general being more cautious than males, is corroborated by Captain Franklin, in his *Journey to the Arctic Regions*. “ It is extraordinary,” says he, “ that although I made inquiries extensively among the Indians, I met with but one who said that he had killed a she-bear with young in the womb.”

It has been remarked, in the way of criticism on these

¹ See Dr Andrew Combe's *Observations on Mental Derangement*, p. 151, 267 ; and an Essay by him on the Seat and Nature of Hypochondriasis, in *The Phrenological Journal*, iii. 51. See also vol. ii. p. 75-8 ; ix. 66 ; and *Transactions of the Phrenological Society*, p. 313.

statements, that more males are produced by nature than females; which is quite correct: but the excess of males does not extend to one twentieth part of these differences in the number of their deaths by violence. Dr Vimont mentions, that the situation of this organ differs in different species of animals, and he points out its precise locality in several of them. In birds distinguished for circumspection, the organ is found some lines above the middle portion of the posterior margin of the frontal bone. In quadrupeds it enlarges the middle portion of the parietal bone along its whole length. In the *quadrumani* its situation is the same as in man.

The metaphysicians, in general, do not treat of "fear," or of the instinctive tendency to take precautions against danger, as an original principle of the mind; but its existence and utility are recognised by Lord Kames.¹ "It is not," says he, "within the reach of fancy to conceive any thing more artfully contrived to answer its purpose, than the instinctive passion of fear, which, upon the first surmise of danger, operates instantaneously. So little doth the passion, in such instances, depend on reason, that it frequently operates in contradiction to it: a man who is not upon his guard cannot avoid shrinking at a blow, though he knows it to be aimed in sport; nor avoid closing his eyes at the approach of what may hurt them, though conscious that he is in no danger."² Dr Thomas Brown ranks *melancholy* among the primitive emotions, which is one of the effects of this faculty in a state of constant but not violent activity.

The organ is larger in the Germans, English, and Scotch, than in the Celtic French. Dr Vimont says, "In France it is not rare to see a pretty considerable number of heads presenting a feeble development of the organ of circumspection. I may indeed say that the mass of the nation presents the organ only in a moderate degree of development; although

¹ As to the manifestations of Cautiousness in the lower animals, see Lord Kames' *Sketches*, B. ii. Sk. i.

² *Elements of Criticism*, 8th edit. 1805, vol. i. p. 68.

in a population of upwards of thirty millions, a considerable number of exceptions may be expected." I have remarked, that the French of the east and north-east departments of France, bordering on Germany, possess this organ larger than those of the departments of the middle of France. In the former departments the Teutonic brain is largely intermixed with the Celtic, and the heads of the people present a striking modification from this cause. The organ appears to be larger in the English than in the Turkish head. Mr Forster, a civil servant on the Madras Establishment, travelled over land from Bengal to England in the year 1782, disguised as a Turk. In all the numberless scenes through which he passed, he had the address successfully to maintain his disguise, except in one single instance, in which he was detected by an individual who was led to certainty in the discovery which he made, by examining *the shape of the traveller's head*. "A Georgian merchant," says Mr Forster, "who occupied the room next to mine (it was at Cashmere), and was a very agreeable neighbour, did not, I observed, give a ready credit to my story, which he cross-examined with some tokens of suspicion; and one day having desired to look at my head, he decidedly pronounced it to be that of a Christian. In a future conversation he explained to me, and proved by comparison, that the head of a Christian *is broad behind, and flatted out at the crown*;—that a Mahomedan's head grows narrow at the top, and, like a monkey's, has a conic form.¹" This description indicates Cautiousness to be larger in the Christian.

The organ is large in Bruce, Hette, Burns, the Swiss, Scotch, Mummies, Hindoos,² Cingalese,³ Peruvians, and Papuans;⁴ moderate in Bellingham, Mary Macinnes, and Negroes. The subjoined figures indicate a great develop-

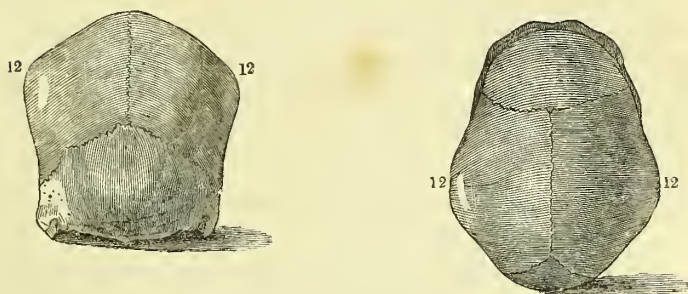
¹ Forster's *Journey*, vol. ii. p. 33.

² *Transactions of the Phren. Soc.* p. 440, and *Phren. Journ.* viii. 528.

³ *Phrenological Journal*, vii. 638.

⁴ *Id.* viii. 298; x. p. 7, 146, 493, 546; xii. 65, 289; xv. 35, 57.

ment of the organ. They are views of the skull of a Kandian, one of the Cingalese tribes in Ceylon.



The difference of breadth at this part between heads of the same general size, but presenting a large and small development of Cautiousness, frequently exceeds an inch and a half; and as the organ is particularly easy of observation, it deserves the attention of beginners.

The natural language of this faculty when predominantly active presents the following characteristics. The eyes are opened wide, the head turns horizontally from side to side, and the look is often directed all around. The countenance expresses anxiety, fear, or terror.

The organ is regarded as established.

II.—*Superior Sentiments.*

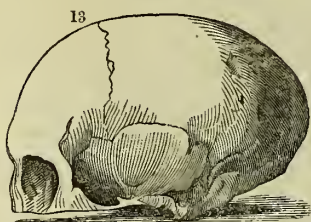
Hitherto we have considered man so far as he is animal. But besides the organs and faculties already spoken of, common to him and the brutes, he is endowed with a variety of sentiments, which constitute the peculiarly human character. Of these the lower animals appear to be destitute. The convolutions which form the organs of Veneration, Hope, and Conscientiousness in the human brain, run transversely; and in the brains of the lower animals, so far as I have observed,

no corresponding convolutions appear. The organs of Benevolence and Imitation, however, which are here classed among the superior sentiments, run longitudinally, and corresponding parts are found in the brains of the lower animals. In judging of the size of the organs of the superior sentiments, the elevation of the head above the organs of Causality and Cautiousness should always be first observed.

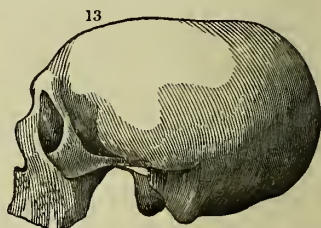
13. BENEVOLENCE.

THIS organ is situated at the upper part of the frontal bone, in the coronal aspect, and immediately before the fontanel. When it is large, the frontal bone rises with an arched appearance, above the organ of Comparison; when small, the forehead is low and retreating. The following cuts exhibit a contrast in this respect; the skull of Burns being elevated far above the eyes, while that of Griffiths (a murderer) is low and narrow in front. The figures of Gottfried and Eustache, on p. 142, may likewise be compared at this organ.

ROBERT BURNS.



GRIFFITHS.



One of Dr Gall's friends frequently said to him, that, as he sought for external indications of mental qualities, he should examine the head of his servant named Joseph. "It is impossible" said his friend, "to find a greater degree of goodness than that young man possesses. For more than ten years during which he has been in my service, I have

seen him manifest, on all occasions, only benevolence, and sweetness of disposition. This is the more surprising, as he does not possess the advantages of education, and has grown up to manhood among servants of very inferior habits." Dr Gall adds, that, previously to that time, he had been far from supposing that what is called goodness of heart could have any organ in the brain, and, consequently, had never looked for indications of it in the head. The repeated solicitations of his friend, however, at length awakened his curiosity.

He immediately recollected the habitual conduct of a young man whom he had known from his most tender infancy, and who was distinguished from his numerous brothers and sisters by his goodness of heart. Although he was passionately fond of the games proper to his age, and delighted in scouring the forests in search of birds' nests, yet no sooner did any of his brothers or sisters become sick, than an inclination still more powerful kept him at home, and drew from him the most assiduous attentions towards the sufferer. When grapes, or apples, or cherries, were distributed among the children, his share was always the least, and he rejoiced in seeing the others partake more largely than himself. He was never more pleased than when some good fortune happened to those whom he loved, on which occasions he often shed tears of joy. He was fond of taking charge of sheep, dogs, rabbits, pigeons, and birds; and if one of these birds happened to die, he wept bitterly, which did not fail to draw upon him the ridicule of his companions. Up to the present time, continues Dr Gall, benevolence and goodness are the distinguishing characteristics of this individual. These dispositions certainly did not arise from education; on the contrary, he had been all along surrounded by those whose conduct was calculated to produce the very opposite results. Dr Gall then began to suspect, that what is called *goodness of heart* is not an acquired, but an innate, quality of the mind.

On another occasion, amidst a very large family, he spoke of the boasted *goodness of heart* of the servant Joseph. "Ah!"

said the eldest daughter, "our brother Charles is exactly like him ; you must positively examine his head—I cannot tell you how good a child he is."

"I had thus in my eye," says Dr Gall, "three cases, in which goodness of disposition was strongly marked. I took casts of the heads, placed them beside each other, and continued to examine them until I should discover a development common to the three. This I at last found, although the heads were in other respects very differently formed. In the mean time, I tried to find similar cases in families, schools, &c., that I might be in a condition to multiply and correct my observations. I extended my investigations to animals also, and, in a short time, collected so great a number of facts, that there is no fundamental quality, or faculty, whose existence and organ are better established than those of Benevolence."

The faculty produces desire of the happiness of others, and delight in the diffusion of enjoyment. It disposes to active goodness, and, in cases of distress, to compassion. It is easy to distinguish kindness flowing from this sentiment, from acts of attention arising from Love of Approbation or more interested motives. A warmth and simplicity of manner are communicated by this faculty that touch the mind at once. We feel its character, and recognise it as genuine unalloyed goodness, aiming at no end but the welfare of its object. There is, on the other hand, an air of "*empressement*" evidently assumed, or of coldness and constraint, attending deeds of kindness proceeding from interested motives, betraying the source from which they flow. The secret spring, and ulterior object, are apparent, notwithstanding the efforts made to conceal them. St Paul gives a beautiful description of the genuine character of this sentiment in his account of Christian charity: "Charity," says he, "suffereth long and is kind ; charity envieth not ; charity vaunteth not itself ; is not puffed up," &c. The good Samaritan mentioned in Scripture, is a delightful in-

stance of the disposition formed by Benevolence when eminently powerful. It is a leading feature also in the character of Addison's Sir Roger de Coverley.

This faculty is a great source of happiness to the possessor. It communicates a lively, amiable, delightful tinge to the impressions received by the mind from without. It produces liberality of sentiment towards all mankind, a disposition to love them, and to dwell on their virtues rather than their vices. A person in whom this feeling is strong, rarely complains of the ingratitude or heartlessness of others. His goodness provides its own reward. The organ appears very large in the mask of Henri Quatre. When some one spoke to him of an officer of the League, by whom he was not loved, he replied, "*Je veux lui faire tant de bien, que je le forcerai de m'aimer malgré lui.*" A person thus endowed is so conscious of wishing well to others, that he hardly doubts of their good-will towards himself. Adhesiveness attaches us to friends and to countrymen; but Benevolence brings the whole human race within the circle of our affections. Fenelon exhibited a beautiful manifestation of it, when he said, "I am a true *Frenchman*, and love my *country*; but I love *mankind* better than my country." It inspired Henri Quatre also when he replied to those who exhorted him to rigour towards some places which had joined the league; "*La satisfaction qu'on tire de la vengeance ne dure qu'un moment; mais celle qu'on tire de la clemence est eternelle.*" The organ is large, and very distinctly marked, in the mask of Jacob Jervis, presented by Dr Abel to the Phrenological Society, and represented in this work under the head of Imitation. That individual possessed the sentiment in so high a degree, that he was obliged to hide himself when he saw persons coming to make improper solicitations, being conscious of his inability to resist them. The organ is extremely developed also in the head of a Negro named Eustache, who lived for a considerable time in Paris, and in whom the feeling was excessively strong. The cut represents a section of his head across Benevolence. During

the insurrection of the blacks in St Domingo, and the massacre by them of the whites, Eustache, while in the capacity of a slave, saved, by his address, courage, and devotion, the lives of his master, and upwards of 400 other whites at the daily risk of his own safety, yet without betraying the negroes. Indeed, his disinterested exertions on behalf of his master were unbounded, and when the latter, in consequence of weakness of the eyes, became unable to amuse himself by reading, Eustache taught himself to read, in order that he might have the satisfaction of whiling away his master's long and sleepless hours. In Paris he was constantly occupied in doing good, and on meeting a beggar could hardly refrain from giving away all that was in his possession. His merits were publicly recognised by the Institute, from whom he obtained the *prize of virtue* on the 9th of August 1832.¹



It is a vulgar idea that this faculty cannot be manifested, except in bestowing alms or money. It may be exerted in the domestic circle, and in society, in a thousand ways, productive of advantage, without being accompanied by donation. It is benevolence to those with whom we live to order our arrangements with a due regard to their comfort and happiness, and not to deny them proper gratifications; it is benevolence to suppress our own humours and tendencies, when these would give unnecessary pain to others; to restrain Self-Esteem and Destructiveness in our commands; to be mild and merciful in our censures; to exert our influence and authority to promote the welfare of others; and one of the most benevolent of all exercises is to visit the

¹ *Journal de la Soc. Phrén. de Paris* for 1834, and April 1835; also *Phren. Jour.* ix, 134; and Vimont's *Treatise on Phrenology*.

poor and vicious, when suffering and wretched, even with the view of administering only the pecuniary bounty of others. It is an essential element also in true politeness.

Deficiency of Benevolence does not produce cruelty or any positively bad sentiment ; but it leads to regardlessness of the welfare of others. When the organ is small, a powerful restraint is withdrawn from the lower propensities. In Bellingham, Hare, Griffiths, and other cold-blooded and deliberate murderers, the organ is decidedly deficient. Those in whom this organ is less than Acquisitiveness and Self-Esteem, rarely feel themselves called on to join in works of charity, to contribute to subscriptions, or to bestow personal exertions for the benefit of others ; they generally urge the apology, that they have enough to do with themselves, and that nobody manifests benevolence towards them. This latter excuse may be just ; for it is in the nature of all the higher sentiments to be doubly rewarded—*first*, in the enjoyment which attends the very exercise of them ; and, *secondly*, in the kindly feelings which are generated in others by their manifestation. Closely connected as men are in society, and dependent, in a greater or less degree, on each other for prosperity and happiness, no individual can enjoy, or leave to his children, if they possess good moral and intellectual qualities, a richer and more valuable treasure than the esteem and affection of his fellows, founded on respect and gratitude for his own virtues and generosity. Such advantages, indeed, the selfish man cannot enjoy ; for his conduct excites no benevolence in others towards him, and his selfishness becomes the more necessary, as he has chosen it as his stay. When large Acquisitiveness and Self-Esteem are combined with this organ small, the individual will be an utter disbeliever in disinterested goodness, and will regard generosity, which has no selfish end, as imbecility. Such a combination, also, if joined with much Destructiveness, probably leads its possessor to doubt of the benevolence of the Supreme Being. Deficiency of the organ, in short, exposes the mind to the predominance of the lower feelings,

and the temper is then apt to become cold, harsh, sour, and unhappy. There is little sympathy with enjoyment ; the face of creation does not appear to smile ; moral and physical objects are viewed on their darkest sides ; and if Destructiveness be large, the mind steels itself with malignity, as a defence against their imagined evil qualities—misanthropy, in short, is the result. The character of Lucifer, as drawn by Milton, and by Byron in his drama of *Cain*, is a personification of great Destructiveness and Intellect, with an utter destitution of Benevolence.

The organ is small in tribes of men remarkable for cruelty ; for example, in the Caribs. In the representations of Tiberius, Caligula, Caracalla, Nero, Catherine of Medicis, Christian the Cruel, Danton, and Robespierre, says Dr Gall, the organ is deficient ; while it is large in Trajan, Marcus Aurelius, Henri Quatre, and other individuals distinguished for benevolent feeling.

Benevolence, admirable as it is in its own nature, requires to be directed by Conscientiousness and Intellect, otherwise it produces abuses. When too powerful, and not so guided, it leads to profusion. This kind of facility is not the effect of mere weakness of reasoning power ; it arises from an over-ready disposition to give, without an adequate motive or consideration, for the mere pleasure of bestowing. Benevolence very powerful, with deficient Firmness, may lead also to the sacrifice of the just interests of the individual, to the necessities or cupidity of others. In short, this sentiment, indulged without consideration, may produce many evil consequences ; indiscriminate donations to beggars in the street, for example, encourage profligacy ; and compulsory assessments for support of the poor have often fostered recklessness and idleness. It can never be sufficiently inculcated, that the functions of the different faculties of the mind are distinct, that those which feel give merely an impulse in general, and that Nature intended them to be placed under the direction of the faculties which reason. Hence, the individual who instinctively feels a

vivid compassion for every object in distress, should consider, that this impulse is not the voice of inspiration directing him *to the mode* in which it should be indulged. On the contrary, the stronger the emotion, the power of direction is not unfrequently the weaker; because the feeling is in itself of so excellent a character, and so delightful, that the man who is inspired by it is the last to suspect the necessity of much consideration in regard to the mode in which it is employed. On the other hand, however, it must also be remembered, that the faculties which reason do not feel Benevolence, and that, hence, that individual is most fitted to mature wise plans of charity, who enjoys a large endowment of this sentiment, combined with powerful intellectual faculties duly cultivated.

It has been objected, that Nature cannot have placed a faculty of Benevolence, and another of Destructiveness, in the same mind. But man is confessedly an assemblage of various qualities. Sir W. Scott speaks of “the well-known cases of men of *undoubted benevolence* of character and disposition, whose *principal delight is to see a miserable criminal*, degraded alike by his previous crimes and the sentence which he has incurred, *conclude a vicious and a wretched life, by an ignominious and cruel death.*”¹ This indicates Benevolence co-existing in the same individual with Destructiveness. The greatest of poets has said,—

“O thou goddess,
 Thou divine Nature, how thyself thou blazon'st
 In these two princely boys! They are as *gentle*
 As zephyrs, blowing below the violet,
 Not wagging his sweet head; and yet as *rough*,
 Their royal blood enchain'd, as the rud'st wind,
 That by the top doth take the mountain-pine,
 And make him stoop to the vale.”

Here Shakspeare informs us, that these boys manifested

¹ *St Ronan's Well.*

much Combativeness and Destructiveness, combined with great Benevolence.

The skull of Burns indicates large Combativeness, Destructiveness, and Self-Esteem, combined with large Benevolence and full Conscientiousness; and Dr Currie, his accomplished biographer, describes his character thus: "By nature kind, brave, sincere, and in a singular degree compassionate, he was, on the other hand, proud, irascible, and vindictive;" indicating, in the clearest manner, the co-existence in him of the organs before named.

The sword is one of the emblems of State, and what is it but the symbol of destruction ready to fall on the heads of those who offend against the laws?—ministering thus, in its very severity, to purposes of Benevolence and Justice. What are the implements of war but instruments of destruction; and for what end do soldiers take the field, but to destroy their enemies? And yet, surgeons and numerous assistants attend on armies, to succour those on whom the calamities of war have fallen; the two faculties, which are deemed incompatible, being thus manifested together, with deliberate design. Without Combativeness and Destructiveness there would be no war; and without Benevolence, if these existed, there would be neither mercy nor compassion. Instead, therefore, of the co-existence of these faculties forming an objection to the phrenological system, it proves its harmony with nature.¹

Benevolence cannot be compensated by Adhesiveness and Conscientiousness, or any other faculties. A daughter, wife, or sister, who possesses large Benevolence, will, at a sick-bed, shew an anxiety to alleviate suffering, a softness and sympathy of manner, and, if intellect is possessed, a fertility of invention in devising means of relief, that will be truly admirable, and to the patient invaluable: But if this organ be deficient, although the attendant may, through Intellect and Conscientiousness, do every thing that is suggested by

¹ Lord Kames mentions several instances of the combined action of Destructiveness and Benevolence in his *Sketches*, B. I. Sk. 5. See also *Phren. Journ.* i. 192; ix. 67, 417.

others, she will neither sympathize with, nor spontaneously labour to assuage, the patient's pain. This observation applies to every department of life in which Benevolence can be manifested. When it is small, the well-spring of goodness flowing towards misery is absent.

Dr Vimont mentions that he has seen persons become unwell just before witnessing the operation of blood-letting; but he is convinced that this does not arise from the action of Benevolence, but from an affection of the propensity to self-preservation, one effect of which, when painfully excited, is to produce a trouble which suspends the circulation. He has not observed that these persons were, on this account, more soft, more generous, in short more benevolent, than others. I have observed several individuals who were liable to faint on seeing blood flowing, and remarked that Benevolence was large in their heads, and Destructiveness small or moderate.

Dr Gall refers not only the feeling of benevolence, but the sentiment of justice, to the faculty now under consideration. "The reader will remember," says he, "that I could not discover the functions of the different organs, except when I met with them in a state of extreme development, and when, consequently, the faculties were manifested with excessive energy. A mental power, in a state of high excitement, sometimes exhibits a character quite different in appearance from its ordinary form of manifestation. Libertinism is the consequence of over-activity of Amativeness, and theft of Acquisitiveness. It is the same with Benevolence. The individuals who had become remarkable on account of uncommon goodness of heart, presented an extreme development of the organ in question. Consequently, goodness, benevolence, sensibility to distress, are not the primitive destination, or ordinary function of this organ; but the manifestation of its exalted condition. Benevolence, therefore, is something more than the primitive function of the organ from which it proceeds. What is the original sentiment? It being extremely difficult to make positive observations on the fundamental destination of an organ, I am obliged," con-

tinues Dr Gall, "to resort to reasoning : and I think there are plausible grounds for holding, that the primitive tendency connected with this organ is that which disposes man to conduct suitable to the maintenance of social order : I call it *the moral sense, the sentiment of justice and injustice.*" He proceeds with a variety of arguments, and arrives at the conclusion, that Benevolence "n'est qu' un degré d'action plus élevé du sens moral."¹

Dr Spurzheim dissents from this view, and holds Conscientiousness to be a distinct sentiment, of which he has discovered and established the organ ; although it was not admitted by Dr Gall. There are only two ways of settling this dispute ; the one by metaphysical analysis of the feeling, and the other by observation of the organ. The result of both appears to me to be in favour of Dr Spurzheim. Dr Vimont also agrees with Dr Spurzheim on this point.—I shall revert to the subject when treating of the organ of Conscientiousness.

In another point, also, in regard to this organ, Dr Spurzheim differs from Dr Gall, and apparently on good grounds. "An opinion of Dr Gall," says he, "of which I cannot approve, is, that Benevolence may degenerate into bad temper, and into the propensity to rejoice in the evil that happens to others, in the same way as the sense of taste may degenerate into disgust at food, physical love into aversion to the other sex, and the sense of melody to aversion to music. The inactivity of Benevolence, or its exhausted state, may produce indifference to its functions, and make us avoid any opportunity of doing beneficent actions ; but active wickedness, and pleasure in the pains of others, like cruelty, depend on inferior feelings, unaccompanied by superior sentiments."²

This organ is found in the lower animals, and when it is largely developed, they are mild and docile ; whereas, when it is deficient, they are vicious, ill-natured, and intractable. Dr Gall gives some interesting illustrations of this fact. The

¹ *Sur les Fonctions du Cerveau*, tome v. p. 273, et sequen.

² *Phrenology*, p. 190.

head of the Tiger, says he, is more flat at this part than that of the lion ; and the heads of the hyæna and wolf are more depressed than that of the dog. The organ is greatly depressed immediately above the level of the eyes, in the baboon ; while, on the contrary, it is elevated in the ouran-outang ; and the dispositions of all these animals are in accordance with their development. In the horse the organ is placed in the middle of the forehead, a little above the eyes. When this region is hollow and narrow, a horse is invariably vicious, and disposed to bite and to kick. In mild and good-natured horses, on the contrary, this part stands as far out as the eyes, or even farther. The driver of a cabriolet of Neuilly, says Dr Gall, bought, at a low price, a horse which nobody could use on account of its extremely bad temper ; but it was an excellent runner. In the first week it bit off two of the driver's fingers, and one of his ears. He attempted to correct it by redoubled blows, but these rendered it only more vicious. He then resolved to try the effect of gentle treatment, and this succeeded to a certain extent. The organ in question was very small in this animal ; and the same conformation will be found in all horses which require to be muzzled, to prevent them from biting. On one occasion, a gentleman in the country mentioned at his dinner-table, that he had two horses, one extremely mild, and the other very vicious in temper. They were brought out into the stable-yard, and, by examining their heads according to Dr Gall's directions, I pointed out each, without having previously seen them. The difference was so great, that several persons who were present recognised it the moment they were told where to look for it. I have seen this experiment repeated with invariable success.

The same rule holds in regard to dogs. Dr Gall saved two puppies of a litter of five, and watched their dispositions with the closest attention. Even before their eyes were opened he remarked a great difference between them : one of them, when taken into the hand, testified by its gestures, that it was pleased ; the other growled, whined, and strug-

gled till it was put down. Scarcely were they fifteen days old, when one indicated, by the motions of its tail, contentment and gentleness, not only towards other little dogs, but to persons who approached it ; the other, on the contrary, never ceased to grumble, and to bite every one within its reach. Aware how much was attributed to education, Dr Gall charged those who habitually approached these animals to bestow equal caresses on each. He himself took the greatest pains to soften the disposition of the ill-natured one ; but nothing could change its character. It bit even its mother, if she chanced to incommode it. In the sixth month, the dogs were seized with distemper, and with whatever degree of gentleness they were treated, the one never ceased to growl and bite, till death put an end to its efforts ; while the other, on the contrary, till its last moment, gave the most striking marks of attachment and gratitude to those who took charge of it. Even the servants were forcibly struck with the difference in the dispositions of these animals. Dr Gall states, that the difference in their heads was equally conspicuous.

In observing this organ in the lower animals, it is necessary to be acquainted with the osteology of their skulls, to be able correctly to distinguish its place. In some of them, such as the elephant, the sow, &c., the two tables of the skull are not parallel at this part, and hence the size of the organ in them cannot be ascertained except by dissection. In the bull and cow, the inner table is separated to some distance from the external table, but the two tables are parallel in the region of this organ, and on this account its size may be judged of during life. The same is the case, says Dr Gall, with the cat.¹

“ There are examples,” says Dr Spurzheim, “ on record, where animals have shewn high degrees of benevolence to others, and even to man. A respectable family of Paris told me, that they had a horse and a cow living together in the same stable ; that the horse several times got untied, went

¹ *Sur les Fonctions du Cerveau*, tome v. p. 327.

to the corner where the sack of oats stood, and drew it in his teeth near the cow ; probably to make her partake of the good cheer. Many dogs also exhibit the same feeling. Dupont de Nemours saw a swallow caught by one foot in the noose of a pack-thread attached to the roof of the French Institute at Paris. The prisoner screamed and attracted all the swallows of the neighbourhood. After a long and tumultuous consultation, a great number formed a line, one after another darted at the pack-thread with their bills, and in half an hour delivered the captive.¹

Some incidents of a similar nature have happened in this country. Dr Millar favoured me with the following statement :—“ The Reverend Dr Wodrow, late of Stevenston in Ayrshire, when clergyman of Dunlop, a parish in the same county, narrated a curious fact, concerning swallows, in a letter to his relative, Mrs Thomson of Edinburgh. ‘ At Dunlop manse,’ says he, ‘ in a very dry summer, one of their nests, attached to the corner of the parlour window, fell down, and lay on the window-sill, without any damage done either to the nest or its helpless inhabitants, four or five young ones. It was a few minutes before breakfast, when I observed the accident ; and soon after it happened, I went out, and carefully placed it on the top of a cut hedge, and I waited to see the event. It was pleasant to see the young ones fed at proper intervals, and, at the same time, a great number of other swallows jointly and busily employed, in a warm summer morning, in building a new nest in the same place with the former ; some of them bringing clay, straws, &c. ; others making use of these materials ; others dipping themselves into an open well, and plashing the walls of the nest ; and all of them cheering one another to the useful work. In two hours the new nest was completely finished, and then the young ones were carried through the air under the wings of one, sometimes two, old swallows, and safely placed in their lodging ; after which the noise and cheering of the

¹ *Phrenology*, p. 188.

troop ceased.' ” Dr Poole also stated to me, that a cat having seized a young sparrow, a flock of these birds perceiving it, attacked the cat, fastened on its back, pecked and flapped till they made it quit its prey, and rescued the intended victim. This happened in a garden behind St John Street, Edinburgh, and was witnessed by a neighbour of Dr Poole's, who communicated the circumstances to him. Dogs also are known to precipitate themselves into water, to save persons in danger of being drowned ; and they attack with fury assassins who assail their masters.

The activity of this sentiment is productive of so much benefit in society, that its cultivation ought to be specially attended to in the training of children. The experience of the teachers of infant-schools shews how much may be done in adding to its energy.¹

I have mentioned before, that stimulating liquors, by exciting the organs, give energy to the feelings or propensities which depend on them for the means of manifestation. Some individuals become excessively profuse when intoxicated. They would then give the world away ; or if they had the power, they would create a new one, in which every individual should enjoy infinite happiness. On the principle that intoxication can never create any feeling, I am inclined to think that such persons have naturally a large endowment of Benevolence, the organ of which is stimulated to this great activity by strong potations. This, however, is only a conjecture.

The organ is liable to excessive excitement by disease. Dr Gall mentions the case of a hussar, who had always manifested great benevolence of disposition, and subsequently became insane. He gave away all his clothes, and left himself absolutely naked ; he never ceased repeating, that he wished to make every one happy, and he introduced into all his projects of beneficence the Holy Trinity. In his head the organs of Benevolence and Veneration were extremely

¹ See *Phren. Journ.* vi. 129, 428.

developed. Idiots in whom this organ is large, are good-natured and harmless ; while those in whom it is small, if Destructiveness be large, are mischievous and wicked.

“ I once knew a man, says Dr Benjamin Rush, who discovered no one mark of reason, who possessed the moral sense or faculty in so high a degree, that he spent his whole life in acts of benevolence. He was not only inoffensive (which is not always the case with idiots), but he was kind and affectionate to every body. He had no ideas of time, but what were suggested to him by the returns of the stated periods for public worship, in which he appeared to take great delight. He spent several hours of every day, in devotion, in which he was so careful to be private, that he was once found in the most improbable place in the world for that purpose, viz., in an oven.”—*An Enquiry into the Influence of Physical Causes upon the Moral Faculty*.—Philadelphia, 1786, p. 8.

The existence of Benevolence, as an innate sentiment of the human mind, is distinctly recognised by Lord Bacon in one of his *Essays*. “ I take goodness, ” says he, “ in this sense, the affecting of the weal of men, which is what the Grecians call *philanthropia* ; and the word humanity (as it is used) is a little too light to express it. Goodness I call the habit, and goodness of nature the inclination. This, of all virtues and dignities of the mind, is the greatest, being the character of the Deity ; and, without it, man is a busy, mischievous, wretched thing, no better than a kind of vermin. The inclination to goodness is imprinted deeply in the nature of man, insomuch that if it issue not towards men, it will take unto other living creatures ; as it is seen in the Turks, a cruel people, who, nevertheless, are kind to beasts, give alms to dogs and birds ; insomuch that, as Busbechius reporteth, a Christian boy in Constantinople had like to have been stoned for gagging, in a waggishness, a long-billed fowl.”

The Scotch metaphysicians in general admit the existence of this sentiment ; but Hobbes, and many other metaphysical

writers, who resolve all our actions into selfishness, deny it. Dr Thomas Brown successfully and beautifully answers the objection, that we are selfish even in our feelings of good-will. "The analysis of love," says he, "as a complex feeling, presents to us always at least two elements; a vivid delight in the contemplation of the object, and a desire of good to that object. Though we cannot, then, when there is no interfering passion, think of the virtues of others *without pleasure*, and must, therefore, in loving virtue, *love what is by its own nature* pleasing, the love of *the virtue which cannot exist without the pleasure*, is surely an affection very different from the love of the mere pleasure existing, if it had been possible for it to exist, *without the virtue*,—a pleasure that accompanies the virtue, only as the soft or brilliant colouring of nature flows from the great orb above,—a gentle radiance that is delightful to our eyes, indeed, and to our heart, but which leads our eye upward to the splendid source from which it flows, and our heart, still higher, to that being by whom the sun was made."¹

Mr Robert Cox has published, in the tenth volume of *The Phrenological Journal*, p. 1., an elaborate essay on "the laws of action of Benevolence;" in which he adduces a variety of facts and arguments to shew that the power and activity of this organ are increased by the *agreeable* or pleasurable action of the organs of the other mental powers, in the same way as destructiveness receives excitement when their action is *disagreeable*. Hence he regards happiness as conducive to generosity and sweetness of temper, and misery as tending to render the disposition sour and irritable; and from these principles practical results of great importance are deduced.

The organ is regarded as established.

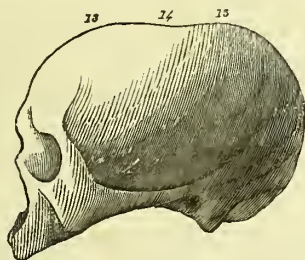
¹ *Lecture 59, vol. iii. p. 241.*

14.—VENERATION.

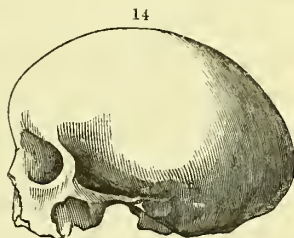
THIS organ is situated in the middle of the coronal region of the brain, at the bregma or fontanel of anatomists. The figures represent it large and small.

DR HETTE.

GIRL.



Veneration moderate.



Veneration large.

Dr Gall gives the following account of the discovery of this organ. His father's family consisted of ten children, who all received the same education, but their talents and dispositions were very dissimilar. One of his brothers manifested from infancy a strong tendency towards religion. "Ses jouets étaient des vases d'église qu'il sculptoit lui-même, des chasubles et des surplis qu'il faisait avec du papier." He was constantly engaged in prayer, and in saying mass; and when obliged to be absent from church, he spent his time in ornamenting and gilding a crucifix of wood. His father had intended him for a merchant, but he himself disliked that occupation, because, said he, it exposed him to the necessity of lying. At the age of twenty-three years he abandoned merchandise; and having lost all hope of being then able to pursue the studies requisite for the Church, he fled from his father's house and became a hermit. His father at length allowed him to study:—at the end of five years he took orders, and continued, till the period of his death, to live in the exercise of devotion and the practice of penance.

Dr Gall farther remarked, that, in schools, some of the children took no interest in religious instruction, whilst others received it with avidity ; also, that those individuals in the classes, who voluntarily devoted themselves to the Church, were either studious, pious, virtuous, and honourable young men, or idlers of the worst description, indolent, and totally destitute of talent. The latter, he observes, obviously had no other aim than that of living at the expense of their fellow-citizens ; while the former felt a lively interest in the vocation to which they aspired. This commendable feeling sprang up in them, says he, nobody knew how ; and it certainly was not attributable to example or education, or to the circumstances in which they had been placed ; for many of them had embraced the clerical profession, even contrary to the intention of their parents and guardians. These facts convinced him that the disposition to religion is innate.

At a later period, no sooner had he fixed his attention on some of the primitive qualities of the mind, than he recollected these observations made in his youth, and immediately examined the heads of persons eminent for devotion. He visited the churches of every sect, and particularly observed the heads of individuals who prayed with the greatest fervour, or who were the most completely absorbed in their religious contemplations. The result was the establishment of the part of the brain in question as the organ of Veneration.

Catholic countries afford particularly favourable opportunities for such observations. Dr Bright, a traveller in Lower Hungary, informs us, that, in Vienna, “ the churches are almost constantly open, and enter them when you will, servants, who have been sent on errands, are seen kneeling before the altars or the images, with their baskets or parcels by their sides. Thus prayer, by its frequency, becomes a habit and recreation, rather than the performance of a duty ; and I have often been truly astonished to observe, in the

coldest weather, little children, when far from the restraints of their parents, fall down upon their knees before the images which adorn many of the corners of the streets and passages in Vienna, and there remain fixed for several minutes, as in serious devotion.”¹ I have observed similar facts in Vienna and in other Catholic cities on the Continent.

The function of the faculty is to produce the sentiment of Veneration in general ; or an emotion of profound and reverential respect, on perceiving an object at once great and good. It is the source of natural religion, and of that tendency to worship a superior power, which manifests itself in almost every tribe of men yet discovered. The faculty, however, produces merely an emotion, and does not form ideas of the object to which adoration should be directed ; and hence, if no revelation have reached the individual, and if the understanding be extremely limited, the unfortunate being may worship the genius of the storm ; the sun, as the source of light, heat, and vegetable life ; or, if more debased in intellect, brutes, and stocks, and stones :

“ Lo ! the poor Indian, whose untutor’d mind
Sees God in clouds, or hears him in the wind.”

The organ is large in King Robert Bruce, who, it is mentioned in history, was strongly alive to religious feelings, and ordered his heart to be carried to the Holy Land, because he had not been able to fulfil a vow to visit it in person.

This faculty, when unenlightened, may lead to every kind of religious absurdity, as worshipping beasts, and stocks, and stones. The Negroes, American Indians, and even the Hindoos, have a poor intellectual development compared with Europeans, and their superstitions are more gross. Socrates did not assent to the popular religious errors of the

¹ Pages 43, 44.

Greeks, and in the ancient busts of him, he is represented with a splendid forehead.¹

It is large also in the Negroes, who are extremely prone to superstition.

It has been objected, that, if an organ and faculty of Veneration exist, revelation was unnecessary. But Dr Gall has well answered, that the proposition should be exactly reversed ; for unless a natural capacity of feeling religious emotion had been previously bestowed, revelation would have been as unavailing to man as it would be to the lower animals ; while, if a mere general sentiment of devotion, or an instinctive but blind tendency to worship, which Veneration truly is, was given, nothing was more reasonable than to add instruction how it ought to be directed. Dr Gall observes, farther, that the existence of the organ is an indirect proof of the existence of God. Destructiveness is implanted in the mind, and animals exist around us, to be killed for our nourishment : Adhesiveness and Philoprogenitiveness are given, and friends and children are provided as objects on whom they may be exercised : Benevolence is conferred on us, and the poor and unhappy, on whom it may shed its soft influence, are everywhere present with us : in like manner, the instinctive tendency to worship is implanted in the mind, and, conformably to these analogies of nature, we may reasonably infer that a God exists whom we may adore. As, however, Veneration has likewise objects on earth, this argument cannot be regarded as conclusive.

The organ is possessed by all men, but in different degrees by different persons ; and, on the principle that the natural power of experiencing an emotion bears a proportion, *cæteris paribus*, to the size of its organ, every sane individual will be naturally capable of joining in religious worship ; but the glow of devotional feeling experienced by each, will be greater or less in intensity, according to the development of

¹ A copy of his bust may be seen in the Phrenological Society's Museum.

this part of his brain. The difference in the strength of the emotion is certain, independently of Phrenology; so that this science reveals only the relation between its intensity and the size of the organ.

Dr Gall mentions, that in the portraits of saints remarkable for devotional feeling, this organ is represented as large, and that the same configuration of head has been given by the ancient artists to their high priests. It is large in the portraits of Constantine, Marcus Aurelius, St Ambrose, Charles I. of England, and Malebranche. In the portrait of St John, in the Last Supper, by Leonardo da Vinci, it and Benevolence are represented as very large.

ST JOHN.



It is also greatly developed in philosophers and poets who are distinguished for piety, as in Newton, Milton, and Klopstock; while it is flat in the head of Spinoza, who professed atheism. The same configuration is found in the heads of Christ, represented by Raphael. In these, the parts behind

the ear, or the organs common to man and the lower animals, are small ; whereas the organs situated in the forehead and in the coronal region, connected with intellect and the moral sentiments, are very large. This organization indicates great intellectual penetration, with exalted Benevolence and Veneration. Dr Gall puts the question, Has this divine form of head been invented, or may we presume that it is a faithful copy of the original ? It is possible, says he, that the artists may have imitated the heads of the most virtuous, just, and benevolent men whom they could find, and thence drawn the character of the head of Christ. In this case, the observation of the artists coincides with that of Dr Gall—a circumstance which supposes either a kind of presentiment of organology on their part, or an accuracy of observation scarcely admissible. He considers it more probable, that the general type, at least, of the head of Christ, has been transmitted to us. St Luke was a painter, and how should he fail to preserve the features of his Master ? It is certain that this form of the head of Christ is of a very high antiquity. It is found in the most ancient pictures and specimens of mosaic work. The Gnostics of the second century possessed images of Christ and of St Paul ; hence Dr Gall concludes, that neither Raphael nor any other artist has invented this admirable configuration.¹

¹ *Sur les Fonctions du Cerveau*, tome v. p. 389. See also a Brief Notice of some Ancient Coins and Medals, as illustrating the Progress of Christianity, by the Rev. R. Walsh, LL.D., Chaplain to the Embassy at Constantinople. The errors into which modern painters, who, instead of studying nature, strain after originality, fall, in representing the figure of Christ, are extraordinary. In the great Cathedral at Leipzig, Christ is drawn with so small a head, that it indicates a close approach to idiocy. In a beautiful new church in Potsdam, he is painted as an embodiment of bone and muscle. He has a large thorax, ample abdomen, large limbs, an immensely large, round, sunny face, with a small forehead and low coronal region. In the Royal Gallery at Dresden, there is a head of him, No. 552, by an unknown artist, which gives him an expression of almost unmingled Self-Esteem. He is pert, confident, and aristocratic. The artist has obviously mistaken this for the natural language of moral

The metaphysicians in general do not treat of Veneration as an original emotion. They trace the belief in God to the perceptions of the understanding. We perceive order, beauty, harmony, power, wisdom and goodness, in the works of creation, and infer from these qualities that a supreme creating and directing Mind exists. In this view the phrenologists concur: the understanding, however, only perceives facts and draws inferences, but does not feel emotions; and after this deduction is completed, it experiences no tendency to adore the God whom it has discovered. The tendency to worship, on the other hand, is often more vigorous than the understanding itself; and the most ignorant and stupid men are prone to venerate, while their intellects are incapable of directing them to an object worthy of their homage. Under the influence of a blind Veneration, they cut branches from trees, and fall down and worship them; or they adore monsters and reptiles as deities—facts which were utterly inexplicable, till Phrenology pointed out an instinctive tendency to venerate, altogether apart from understanding. This tendency is produced by the faculty in question, and it is a great omission on the part of the old philosophers, that no such power is to be found in their systems.

Hitherto we have considered Veneration only as directed to religion, which is undoubtedly its noblest end; but it has also objects and a wide sphere of action, in the pre-

greatness. In the new chapel of the Prince of Thurn and Taxis in Ratisbon, is Danneker's celebrated statue of Jesus Christ, a full-length figure, of the most stainless marble, and the very personification of benignity and intellect. It seems to radiate calm dignity and noble beauty, the natural expression of the highest mental qualities. The anterior lobe of the brain is represented as long, high, and just so broad as is consistent with the character; but unfortunately the coronal region is rather deficient in the situation of Benevolence, while the posterior region shews deficient Cautiousness, enormous Love of Approbation, and, in my opinion, large Amativeness, although this latter appearance may perhaps be ascribed to the flowing of the hair. If the head of this statue had been phrenologically correct throughout, it would have been a perfect gem of art.

sent world. It produces the feeling of deference and respect in general ; and hence may be directed to every object that seems worthy of such regard. In children it is a chief ingredient in filial piety, and produces that soft and almost holy reverence with which a child looks up to his parents as the authors of his days, the protectors of his infancy, and the guides of his youth. A child in whom this organ is small, may, if Benevolence and Adhesiveness be large, entertain great affection for his parents as friends ; but, in his habitual intercourse, there will be little of that deferential respect which is the grand feature of the mind when the organ is large. Children who are prone to rebellion, regardless of authority, and little attentive to command, will generally be found to have Self-Esteem large, and this organ proportionally deficient.

Veneration leads to deference for superiors in knowledge, virtue, and rank, as well as in years, and prompts to the reverence of authority. The organ is generally largely developed in the Asiatic head, and the tendency to obedience is strong in the people of that quarter of the globe. Indeed, the hereditary slavery which has descended among them through so many generations, may be connected with the prevalence of this disposition.

A lady who is in the habit of examining the heads of servants before hiring them, informed me, that she has found by experience, that those in whom Veneration is large are the most deferential and obedient ; and that one with large Combativeness and Destructiveness, and small Veneration, became angry and abusive when her conduct was censured. This occurred, even although Love of Approbation and Conscientiousness were both large ; but the passion speedily subsided, and was followed by self-reproach and repentance. If Veneration also had been large, it would have produced that instinctive feeling of respect which would have operated as instantaneously as Combativeness and Destructiveness, and restrained the ebullitions.

Veneration may produce also respect for titles, rank, and power; for a long line of ancestry, or mere wealth: and it frequently manifests itself in one or other of these forms, when it does not appear in religious fervour. Individuals in whom Love of Approbation and Veneration are very large, and Conscientiousness and intellect not in proportion, venerate persons of higher rank than their own, and are fond of their society. People of rank, who do not possess high virtues or talents, like the society of those in whom this combination occurs. It inspires its possessor with an habitual deference towards them, which is felt as a constant homage. On the occasion of King George the Fourth's visit to Scotland in 1822, some individuals experienced the profoundest emotion of awe and respect on beholding him; while others were not conscious of any similar excitement, and were surprised at what appeared to them to be the exaggerated enthusiasm of the first. I examined the heads of several of both classes, and, in the former, found the organ of Veneration uniformly larger, in proportion to the other organs, than in the latter.

This faculty is likewise the source of the profound awe which some persons feel in visiting ancient temples, Gothic cathedrals, and places of sepulture for the illustrious dead. It gives reverence for churchyards, and other burial-places of our ancestors. A person in whom it is small experiences a comparatively feeble emotion, even in viewing Westminster Abbey, and the monuments of departed genius there preserved. Veneration is one ingredient in the love of old coins, and in the tendency generally to antiquarianism.

Like other powers, this sentiment is liable to abuse. When not subjected to the guidance of Reflection and Conscientiousness, it may produce a bigoted respect for old customs and absurd institutions, if only sanctified by time; and a blind tendency to admire the wisdom of our ancestors, more than is warranted by its intrinsic value.¹ It gives reverence for great names and authorities in religion and philosophy,

¹ See *Phrenological Journal*, viii. 598.

and when these are really unworthy of respect, it presents a strong obstacle to the progress of truth. It seems to maintain the unenlightened devotee in a state of bigoted subjection to his priests: an emotion of profound and sanctified respect springs up in his mind on contemplating the doctrines which they have instilled into him in his youth; and every suggestion of the understanding, in opposition to this feeling, is expelled as profane. In short, Veneration, when vigorous and unenlightened, produces complete prostration of the mind before the object to which it is directed.

Defect of Veneration does not necessarily produce profanity, but only indifference to religious exercises, and little reverence for power and ancestry. On the other hand, a man may possess a large organ of Veneration, and nevertheless have no reverence for the Christian religion, if he disbelieves in its divine origin; but he will venerate something else. Voltaire's Veneration was large, and he was an unbeliever; but he is known to have venerated the Supreme Being, and to have paid great deference to persons of high rank.¹ He was even accused of fanaticism by some of the Parisian squavans, on account of his respect for God.² I have found Veneration large in the head of the genuine Tory—in him who really delights in contemplating kings and nobles, and who regards them as invested with a degree of sanctity by being able to trace their descent through a long line of ancestry, and by the possession of hereditary authority. In the genuine Whig or republican, who sees in kings and nobles only men liable to all the frailties of human nature, and requiring checks to prevent them from abusing power, Veneration is generally smaller, in proportion to their intellectual endowment. When Veneration, Self-Esteem, Conscientiousness, and Intellect, are all well developed, the individuals are moderate Whigs, or moderate Tories, and readily

¹ See *Phren. Journ.* viii. 598.

² See "Observations on some recent Objections to Phrenology, founded on a part of the Cerebral Development of Voltaire," by Mr Simpson, *Phren. Journ.* iii. 564.

approximate in their sentiments. They ought to exercise mutual forbearance, their different feelings being the result of different natural constitutions. These observations are limited to genuine Tories and genuine Whigs; for a man may profess whiggery through love of place, and toryism through mere factiousness, and in such cases other organs will predominate.

As Nature has implanted the organs of Veneration and Wonder in the brain, and the corresponding sentiments in the mind, it is a groundless terror to apprehend that religion can ever be extinguished, or even endangered, by the arguments or ridicule of the profane. Forms of worship may change, and particular religious tenets may now be fashionable, and subsequently fall into decay; but while the human heart continues to beat, awe and veneration for the Divine Being will ever animate the soul; the worshipper will cease to kneel, and the hymn of adoration will cease to rise, only when the race of man becomes extinct.

The natural language of this faculty carries the head upwards in the direction of the organ. The voice is soft, subdued, reposing, and adoring.¹ The greatest difference is perceptible in the tones and manner of prayer of clergyman in whom the organ is large, compared with those in whom it is small; there is a soft breathing fervour of devotion in the former, and a cold reasoning formality in the latter. I have found the organ uniformly large in clergymen who selected the clerical profession from natural liking, and not merely as a means of subsistence.²

¹ In treating of Self-Esteem, I remarked, that, when we insist on our own dignity and importance, we draw back the head and carry it high. Lavater had made similar observations before Dr Gall.

² In Eastern countries, inferiors in rank, in approaching great personages, prostrate the body and bow the face to the ground. This act is an expression not of direct Veneration for the man in authority, but of abasement and humiliation on the part of the prostrate subject. It is the natural language of an absolute negation of Self-Esteem:—the whole movements of the body are diametrically opposite to those which indicate its active state.

The organ is generally larger in the female head than in the male ; and women are more obedient and prone to devotion than men.

Dr Gall treats of this sentiment as producing religious feeling alone : to Dr Spurzheim is due the merit of analyzing it, and describing it as the source of the emotion of reverence and respect in general.

Nothing is more common in the hospitals for the insane, says Pinel, than cases of alienation produced by devotional feelings excessively exalted, by conscientious scruples carried to prejudicial excess, or by religious terror. As this kind of insanity, says Dr Gall, is often present without derangement of the other faculties, physicians ought to have inferred that it is connected with disease of a particular part of the brain. He and Dr Spurzheim saw, in the hospital of Amsterdam, a patient who was tormented with the idea that he was compelled to sin, and that he could not possibly be saved. In him the organ of Veneration was very largely developed. In a priest who despaired of salvation, and in another patient who had the confirmed idea that he was condemned to eternal punishment, the organ was also very large. A woman named Elizabeth Lindemann, was brought to Dr Gall. At the first glance he perceived that she possessed this organ in an extraordinary degree ; she continued standing before him lifting her eyes from time to time to heaven, and indicating, by all her gestures, sadness and anguish. From her youth, she had been excessively addicted to prayer. For some time previous to the interview with Dr Gall she " had been subject to convulsions, and maintained that she was possessed ; the devil, she said, entered into her heart by her mouth, and made efforts to carry her to hell." Dr Gall mentions also, that he had seen, in the collection of M. Esquirol, casts of the heads of three persons subject to religious insanity. In all the three the organ of Veneration was largely developed. If, says he, M. Esquirol continues for some time to mould the heads of the insane and to preserve their

skulls, he will not fail to become one of the most zealous and enlightened disciples of Organology. Esquirol very justly remarks on the subject, that although a particular sermon has often been blamed for producing this species of insanity, yet it would not have had that effect, unless there had been a predisposition to the disease, probably a pre-existence of it in the individual.

I have seen patients insane from Veneration in several lunatic asylums in this country. In 1836, I saw in Mr Drury's establishment near Glasgow, a patient whose tendency to prayer, when labouring under a fit of insanity, was irresistible. He prayed on his knees all the day. The organ of Veneration was not large in his head. It has always been stated, that although large organs, from their superior energy of function, are more prone to fall into a state of diseased activity than small ones, yet that small organs also may become diseased. This patient enjoyed a lucid interval when I conversed with him, and in answer to the question, whether he enjoyed his devotional exercises when excited, he replied, No—that he was unhappy, and that the object of his prayers was to implore the turning away of the divine wrath. His organs of Cautiousness and Destructiveness were very large; and my impression is that he prayed through fear. When religious insanity arises from the diseased excitement of Veneration, Hope, and Wonder, the patient enjoys a supernatural beatitude. Respecting religious insanity, the reader may consult Dr A. Combe's *Observations on Mental Derangement*, p. 184; and a series of articles in the ninth volume of *The Phrenological Journal*, pp. 289, 532, 577, entitled "Observations on Religious Fanaticism; illustrated by a Comparison of the Belief and Conduct of noted Religious Enthusiasts with those of Patients in the Montrose Lunatic Asylum. By W. A. F. Browne, Esq., Medical Superintendent of that Institution. In the 10th volume of the *Phrenological Journal*, p. 450, Dr Abram Cox reports a case which occur-

red in November 1836, in which ramolissement of the white substance of the brain, on the right side, was found in a woman about the age of 68, extensively implicating the organs of Veneration and Imitation, and encroaching, to a small extent, on those of Hope and Wonder, and on that of Benevolence still more slightly. The lesion of Veneration was distinctly indicated by extra-normal excitement of the religious feelings; that of Hope, by the confidence with which she looked forward to happiness in a future life, and lastly, that of Wonder, by her seeing visions; all as reported to Dr Cox by her son and daughter before her death, and of course before the actual state of her brain was known. She twice suffered from apoplectic attacks, the second of which gave rise to paralysis and a state of mind bordering on dementia. The *gray* matter of the superior surface of the organ of Veneration was untouched, and even after her second apoplectic attack her devotion remained a prominent mental manifestation. In vol. xiii., p. 259, of the same Journal, Dr J. H. Balfour reports a case which presented itself in the Royal Infirmary of Edinburgh in February 1840, in which the organ of Veneration, in the right hemisphere, had obviously been for some time in a state of chronic inflammation. The membrane covering it was opaque and much thickened. The man had laboured under *religious melancholy* for many months, if not years, and died by suicide.

Cases in which the organ of Veneration was mesmerized, and corresponding manifestations produced, are reported in the Journal, vol. xv., p. 358, *et seq.*

Dr Broussais considers that some of the lower animals possess this organ:¹ and Burns the poet falls into the same train of observations. "Man," says Burns, "is the god of the dog. He knows no other; he can understand no other. And see how he worships him! With what reverence he

¹ *Phren. Journ.* x. 547.

crouches at his feet—with what love he fawns upon him—with what dependence he looks up to him—and with what cheerful alacrity he obeys him. His whole soul is wrapt up in his god—all the powers and faculties of his nature are devoted to his service, and these powers and faculties are ennobled by the intercourse. Divines tell us that it ought just to be so with the Christian—but the dogs put the Christian to shame.” Broussais, however, does not point out the organ of Veneration in the lower animals, and Dr Vimont does not ascribe it to them, and he is the highest authority in comparative Phrenology.

The organ of Veneration is large in the following heads, represented in Dr Spurzheim's *Phrenology in connexion with the Study of Physiognomy*;—Oberlin, plate xvii. fig. 2; President Jeannin, xviii. 2; Francis Paris, xxi. 1; Augustus Baker, xxi. 2; Paul Lejeune, xxiv. 2, and Sully; xxxiv. 2;—Small in Nero, xv. 1, and Pope Alexander VI. xvii. 1.

The organ is regarded as established.

15.—FIRMNESS.

THIS organ is situated at the posterior part of the coronal region of the head, close upon the middle line.

Dr Gall observed, that persons of a firm and constant character have this part of the brain much developed; and Lavater had previously remarked the same configuration in individuals of that disposition. It is difficult to determine, by analysis, the ultimate principle of this faculty. Dr Gall remarks, that, properly speaking, Firmness is neither an inclination nor a power; “*c'est une manière d'être qui donne à l'homme une empreinte particulière que l'on appelle le caractère*; he who is deficient in it,” says he, “is the sport of external circumstances, and of communicated impressions.” Its effects, says Dr Spurzheim, are mistaken for will; because those in whom it is large are prone to use the phrase “I will,” with great emphasis, which is the natural language of deter-

mination ; but this feeling is different from proper volition. It gives fortitude, constancy, perseverance, determination ; and, when too energetic, produces obstinacy, stubbornness, and infatuation. Its organ will be found large in stubborn and untractable children.

Firmness seems to be a faculty which has no relation to external objects : its influence terminates in the mind itself, and adds only a quality to the manifestations of the other powers ; thus, acting along with Combativeness, it produces determined bravery ; with Veneration, sustained devotion ; and with Conscientiousness inflexible integrity. It gives, however, perseverance in manifesting only such of the other faculties as are possessed in an available degree. An individual having much Firmness and considerable Tune, may persevere in making music ; if Tune were greatly deficient, he would not be disposed to persevere in that attempt ; but if he possessed much Causality, he might persevere in abstract study. At the same time Dr Gall justly remarks, that firmness of character ought not to be confounded with perseverance in gratifying the predominating dispositions of the mind. Thus an individual, in whom Acquisitiveness is the strongest propensity, may, although Firmness be deficient, exhibit unceasing efforts to become rich, but he will be vacillating and unsteady in the means which he will employ ; he will to-day be captivated by one project, to-morrow by another, and the next day by a third ;—whereas, with Firmness large, he would adopt the plan which appeared to him most promising, and steadily pursue it to the end. We may persevere in a course of action from two motives—either, first, because it is of itself agreeable, or, secondly, because we have *resolved* so to act. It is Firmness which gives origin to the latter motive, and enables us to persist with vigour in conduct once decided upon whether agreeable or the reverse.

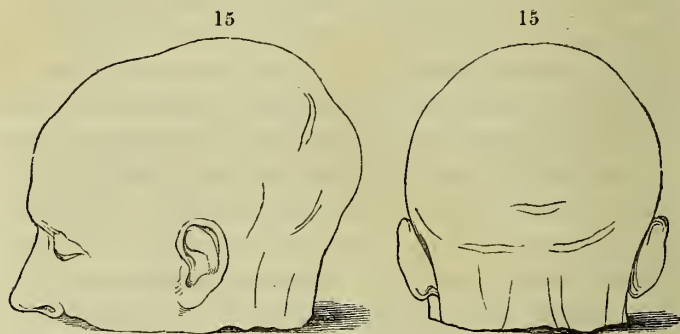
When this organ predominates, it gives a peculiar hardness to the manner, a stiffness and uprightness to the gait, with a forcible and emphatic tone to the voice.

A due degree of it is essential to the attainment of eminence in any difficult pursuit. Dr Gall observes, that, when it is large, the motto of the individual will be, "*Tu ne cede malis, sed contra audacior ito.*" It produces the "*tenax propositi vir.*" The organ is larger in the British than in the French, and the latter are astonished at the determined perseverance of the former, in the prosecution of their designs, whether these relate to the arts, sciences, or war. Napoleon knew well the weakness of the French character in this point, and in his conversations recorded by Count Las Cases, frequently complained of it. In war, the effects of this organ are very conspicuous in the conduct of the two nations. The French, under the influence of large Combativeness, and moderate Cautiousness, make the most lively and spirited attacks, shouting and cheering as they advance to the charge: but, if steadily resisted, their ardour abates; and, from deficiency in Firmness, they yield readily to adversity. The British, on the other hand, advance to the assault with cool determination, arising from great Firmness, and considerable Cautiousness and Secretiveness; and, although repulsed, they are not discomfited, but preserve presence of mind to execute whatever may appear most advisable in the circumstances which have occurred.

This faculty contributes greatly to success in any enterprise, by communicating the quality of perseverance. Fatigue will damp the ardour of the bravest after much exertion; and hence he who is able to maintain his faculties in a state of vivid activity for the greatest length of time, will frequently succeed at last, merely by wearying out his opponent. Fortitude and patience, also, as distinguished from active courage, result from this faculty. The organ is large in the American Indians, and their powers of endurance appear almost incredible to Europeans.¹ Dr Gall found it very large in a highwayman, who was exceedingly hardened in crime. He was kept in close confinement for a considerable

¹ See *Phrenological Journal*, ii. 535.

time, with the view of forcing him to disclose his accomplices; but this had no effect, and he was then put to the torture by beating. Finding this infliction intolerable, he strangled himself with his chain. After his death, the parietal bones were found separated precisely at the point where the organ of Firmness is situated. Dr Gall could not determine whether the separation arose from the violent strangulation, from the excessive energy of the organ, or from accident; but records the fact, to call attention to similar cases, should they occur in future. This organ, and that of Destructiveness, are very large in John Thurtell, executed for the murder of Weare, and he manifested both powerfully in his conduct. The organ is very large in King Robert Bruce, and he was distinguished for unshaken firmness, in circumstances in which an ordinary mind would have been overwhelmed by despair. It is large in Haggart, who also manifested a remarkable degree of determination in crime, and constancy in suffering. The subjoined cuts represent a cast of the head of a gentleman in whom the faculty is very strong, and whose character is described in *The Phrenological Journal*, vol. viii. p. 206.



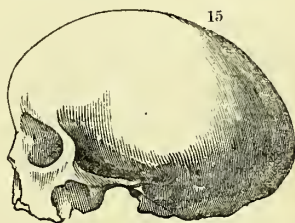
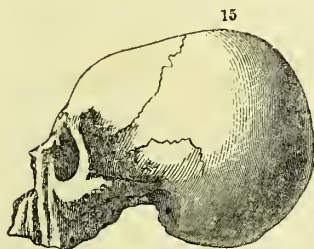
When the organ is small, the individual is prone to yield to the impulses of his predominating feelings. When Benevolence assumes the sway, he is all kindness; when Combateness and Destructiveness are excited, he is passionate,

outrageous, and violent : and thus he will afford a spectacle of habitual vacillation and inconsistency. If Love of Approbation and Benevolence are large, and Firmness small, solicitation will with great difficulty be resisted. The organ is very small in the cast of Mrs H., and she manifested much unsteadiness of purpose.

This organ is large in Rammohun Roy, p. 45, and in Dr Spurzheim, p. 57 ; also in Oberlin, Ramus, Stubbs, and Schlabrendorf, of whose heads representations are given in Dr Spurzheim's *Phrenology in Connexion with the Study of Physiognomy*, pl. xvii. fig. 2 ; xxv. 2 ; and xxvi. 1 and 2. Professor Broussais' remarks on the organ will be found in *The Phrenological Journal*, vol. x. p. 548. The following cuts shew the appearance of the skull when it is very large and very small.

FRENCH SOLDIER.

GIRL.



I am not aware that the metaphysicians admit any faculty corresponding to this sentiment. *Resolution* is the name given to the emotion which accompanies its active state. It exercises a great influence in forming the character, and its omission is very important in any system of mental philosophy.

The effects of disease of the organ seem to have been little observed. We may infer, that they will be the exaltation of the function—namely, extreme stubbornness and infatuation. One case in which the organ was very large, and apparently at the same time diseased, is reported by Professor

Otto of Copenhagen, in *The Phrenological Journal*, vol. viii. p. 66.

The organ is regarded as established.

16.—CONSCIENTIOUSNESS.

THIS organ is situated on the posterior and lateral parts of the coronal region of the brain, upwards from Cautiousness, and backwards from Hope. In Dr Gall's plates, the function of the part is marked as unascertained, and the merit of the discovery and establishment of the organ is due to Dr Spurzheim. It manifests the love of the true in contradistinction to the false,—of the real in contradistinction to the pretended,—and of the genuine in contradistinction to the factitious. It produces also the feeling of duty, obligation, or incumbency.

The words *right* and *wrong* in the English language, have various significations. We say, for instance, that the summing up of an account is *right*; in this instance, the word indicates the successful result of the exercise of the organ of Number;—that a logical conclusion is right, which indicates that we approve of the result attained by the exercise of Causality and Comparison. In these examples, the word *right* has a purely intellectual signification. But we say also that it is *right* to be kind and compassionate, and wrong to be hard-hearted and cruel; indicating that we approve of the exercise of Benevolence, and disapprove of the action of Self-Esteem and Destructiveness, uncontrolled by compassion. We say that it is right to worship God, and wrong to neglect the expression of our reverence for Him. In these instances, the word right has a *moral* import. We feel that it is a duty to be benevolent, and a duty also to worship God. The faculties of Benevolence and Veneration, therefore, produce each a distinct moral emotion, attended with the sentiment of duty or incumbency. But there is a third moral emotion different from these, which is manifested by the organ of Conscientiousness. For example, if we call

upon one person to do us an act of kindness, and on another to pay a debt which he owes us, and if both refuse, the emotions which spring up in our minds are very different in the two cases. In the first instance, we say that the individual was wrong, in not manifesting Benevolence towards us, but we feel that we have no title, natural or legal, to *exact* compliance ; in the latter case, we feel that we *have* a natural title to do so, and if the statute-book does not afford us also a legal title, we say that it is imperfect. The emotion which arises in the latter case is that which I ascribe to the faculty of Conscientiousness. It springs up in the mind when the exactable rights and incumbent duties of ourselves and others are the subjects of consideration.

The intellectual faculties investigate the qualities and relations not only of external objects, but of the desires and emotions which arise in the mind itself. They, however, do not *produce* these desires and emotions ; and consequently, unless the special organ on which each of these depends is active, the intellect cannot become acquainted with it. For example, as Causality and Comparison cannot judge of melody unless the organ of Tune be sufficiently developed, neither can they judge of kindness without the co-operation of the organ of Benevolence ; nor, according to my view, can they judge of right, duty, or incumbency in cases where there is a natural title in one party to demand, and a natural obligation on another to perform, without the aid of the organ of Conscientiousness. The intellect alone may judge of *legal* obligation ; because it is sufficient of itself to discriminate whether “ it is so nominated in the bond ;” but without the aid of the organ of Conscientiousness, it cannot arrive at a sound conclusion whether the thing “ nominated in the bond” is *naturally* and intrinsically, irrespective of the bond, incumbent or not incumbent on the party whose signature it bears.

It is the faculty of Conscientiousness, then, which produces the feeling of natural right on the part of one to demand, and of natural obligation on another to perform, for which we have no single definite expression in the English

language. What is commonly called justice, is the result of this sentiment acting in combination with the intellectual powers, the latter investigating the motives and consequences of the actions, on the justice or injustice of which the mind is to decide ; but they do not feel the peculiar emotion which I have attempted to describe. Persons in whom the organ of Conscientiousness is very deficient, give the name of justice to the dictates of Benevolence or Veneration, or to the enactments of the law ; but when the organ is large, the individual not only does not limit his sentiments of obligation by the requirements of the statute-book, but in some instances he will acknowledge that he has no *natural* title to what the civil law places at his disposal, and in other cases that he lies under a *natural* obligation to perform what the law does not enforce. In short, he feels within himself an inward law of duty, independently of the dictates of Benevolence and Veneration, and of the terms of statutory enactment. In the words of St Paul, he is a law unto himself.

I could fill a volume with cases in support of this organ ; but I shall here confine myself to a few.

In 1816, I was requested to find out and engage a person bred to business, accustomed to keep books, of strict integrity, and of an agreeable address, to act as salesman, cashier, and confidential clerk, to a manufacturing company, the business of which, by the death of the proprietor, had devolved on his family, none of whom were, at that time, in a condition to carry it on themselves. Before this occurrence I had attended Dr Spurzheim's lectures, and was slightly acquainted with Phrenology, but had little experience in observing the organs, and, consequently, no reliance on it as a science of practical utility. I proceeded, therefore, in the ordinary way to discover a fit person to fill the situation. At length an individual was recommended to me by a merchant in Edinburgh whom I had long known and esteemed ; and the qualifications ascribed to him were the following. He was nearly thirty years of age, married, an excellent book-keeper, of pleasing address, highly religious, and of the strictest in-

tegrity. He was at once engaged by my friends, and entered on his duties. He was entrusted with the cash and cash-book ; but every week one of his employers balanced the cash-book, and counted the money on hand, in order so far to keep a check on his honesty.

From the first, I had observed that his organs of Conscientiousness were very deficient, and that Firmness was not large. His intellectual organs were well developed, as were also those of Benevolence and Veneration, while Love of Approbation was very large. I expressed to the gentleman who had recommended him, my regret that his organs of Conscientiousness were so palpably defective ; when he replied that he knew nothing about the effect of the organs, but that he had had experience that Christianity had cured any defects which might originally have existed in the dispositions of the individual, and that he was an honest man. I could not venture to controvert this view, and the person's conduct appeared for several years to confirm it.

He was a leading member of a dissenting congregation, and his house, which was situated within the manufactory, was the resort of his numerous friends for prayer-meetings. The solemn notes of the psalms and hymns which they sang, were often heard resounding through the adjoining apartments in which the operations were carried on. My own impression became strengthened, that a great natural defect might be supplied by other principles ; but in the course of time different views of his character were evolved. His cash-book became confused ; the days for balancing it were postponed by him under a variety of pretences ; the usual returns from the sales began seriously to diminish, and I was led to insist on an investigation of his conduct and transactions. He then came to me in great agitation and prefaced his address with these words : " I am come to acknowledge to you that I am the greatest villain on earth ; you may have me hanged if you please." He then confessed that from a very early period of his employment he had embezzled the funds entrusted to his care, and falsified the entries in his cash-book to conceal his deficiencies, till at last

the falsifications had become so numerous that he himself was no longer able to discriminate between the real and the fictitious entries.

This case produced a strong impression on my mind of the importance of Phrenology as an indication of natural qualities ; and in examining the details of this individual's delinquencies, the close connection between his conduct and the peculiarities of his cerebral development became still more striking. He confessed freely the use to which he had applied the embezzled money. He was not in the least addicted to sensual debauchery in any form ; but his large Benevolence and Love of Approbation rendered him kind and hospitable, and his first error was that of entertaining his friends at an expense disproportionate to his income, and his second was assisting them in their pecuniary difficulties, with loans of his employer's funds, which were never repaid. These two forms of temptation led him into embezzlements to the extent of four or five hundred pounds. He then became alarmed at the prospect of detection, and, as the state lottery was then existing, he purchased tickets in it to a large amount, and, as he stated to me, he prayed fervently that they might become prizes—not from any desire for the money for his own sake, but that he might be enabled, by an act of Providence, to escape from the pit into which he had fallen. All the tickets turned up blanks, and his acknowledged deficiencies amounted to L.600 at the time when the avowal was made.

I could not avoid the conclusion that this sacrifice of character on his part, and of property on the part of his employer, was, to a great extent, the consequence of having exposed him to temptations which his natural qualities were not calculated to resist ; and he was not prosecuted. His previous employer had not entrusted money to him confidentially, and had not been cheated. He was, therefore, dismissed with a solemn admonition not to belie his Christian character in future ; but I regret to add, that his subsequent life afforded no indications of moral amendment. He entered into trade on his own account, and after one or

two bankruptcies left Edinburgh, and I heard of him in the United States still living by the practice of plausibilities and falsehood.

From that time forward, I directed much attention to the connection between practical conduct and particular combinations of the cerebral organs. I not only visited prisons, but adopted the rule not to engage domestic servants without examining their heads.

At the time when I became a phrenologist, I had in my employment individuals in whom the organs of Conscientiousness were deficient, and I did not on this account dismiss them from my service. One of them had a large development of the intellectual organs, large Benevolence, large Self-Esteem and Love of Approbation, moderate Veneration, large Secretiveness and Acquisitiveness, but with very deficient Conscientiousness. Through motives of benevolence, I retained him in my employment; but notwithstanding a vigilant superintendence which I exercised over his conduct, I was repeatedly cheated and plundered of sums of money by him. Another, in whom the same combination of organs occurred, but with the addition of large organs of the animal propensities, quitted my service for a situation of higher emolument, but in which he was left more to the guidance of his own faculties than with me: He fell a victim to his moral deficiencies, was dismissed, lost his character and condition in society, and lived to become a dissipated beggar, on whom his former equals bestowed pence and old clothes. After I began to apply Phrenology practically, I wished to hire a lad as a stable boy:—one of 13 or 14 years of age was highly recommended to me by a woman from the country, whom I had long known and respected equally for her sound discrimination and integrity. She said that he was the son of a neighbour of hers, that she had known him from his infancy, and that I might rely on his moral qualities as well as on his knowledge of horses. On examining his head, I found the intellectual organs, and those of Benevolence, Veneration, and Firmness, to be well developed; but Secretiveness and Acquisitiveness were both

large, while Conscientiousness was very deficient. Without assigning any particular reason, I told the woman that the boy would not suit me; and she left my house in high indignation (which she loudly expressed to some of the members of my family), that "I should reject honest men's sons from my service because their heads did not please me!" In about a month, she returned, and said—"Oh, Sir, I am ashamed to face you again, after all I have said against you about that boy;" and she proceeded to mention that since her last visit, she had learned that the lad had been dismissed from his last place on account of thieving, and that his character was known, in the part of the country where he had served, as that of a thief, although she had never entertained the least suspicion of the fact, she having been acquainted with him only while living with his parents, and his place of service having been ten or twelve miles distant from their and her own residence.

Several years ago, a man of education and talent who held civic and ecclesiastical offices in Edinburgh, was noted for the active interest which he took in missionary societies and other schemes for the promotion of religion. In him the organs of the intellectual faculties, and also those of Benevolence, Veneration, Firmness, Self-Esteem, Cautiousness, Secretiveness, and Amativeness, were large; but that of Conscientiousness was very deficient. After nearly thirty years of ostensible piety and respectability, it was discovered that he had all along been deviating widely from the paths of rectitude; and dishonesty and licentiousness were the two conspicuous features of his delinquency.

Another individual, also a man of talent and education, to a good intellectual endowment added large organs of Benevolence, Veneration, and Love of Approbation, with very deficient organs of Cautiousness, Conscientiousness, and Firmness. He was generous and obliging to excess, and reckless of justice. He borrowed money from all who would lend him; pledged his faith most positively to each lender to repay his sum on a particular day, and never thought more of the promise, until he was dunned or compelled

to perform. The proverbial expression of robbing Peter to pay Paul was so far realized in his practice, that he often borrowed from Peter to lend to Paul, but although Paul repaid him, he did not always refund to Peter.

These cases, to which I could add many more, serve to indicate that the sentiment of justice does not arise from Benevolence, Veneration, and Intellect. On the other hand, a lady, a near relative of mine, to an excellent developement of the intellectual organs, added large organs of Destructiveness, Veneration, Conscientiousness, and Firmness, but with moderate Benevolence. She was severe and stern in her manners, sentiments, and judgments, but scrupulously just ; that is to say, she brought every action of herself and others to the rigid standard of absolute right to exact, and of obligation to perform ; and was little disposed to grant indulgences or to make allowances for failures, omissions, and shortcomings. She was a strict Calvinist, and derived great consolation from her religious faith. In another lady, with whom I was intimately acquainted for twenty years, the organs of Conscientiousness and Firmness were very large, that of Love of Approbation was large, while an average intellect was combined with moderate Secretiveness and Benevolence. She also was distinguished for trying every action and opinion by the standard of rigid justice. So powerful was this sentiment in her mind, that she could never conceive how any persons could be offended by having the naked truth stated to them, and she was accustomed to express openly to her friends the freest opinions of their shortcomings and imperfections. On the other hand, she was never offended by the plainest remarks respecting her own conduct, if addressed to her respectfully, and in the spirit of truth.

After more than thirty years' experience of the world in actual life, and in various countries, I cannot charge my memory with an instance in which I have been permanently treated unjustly by an individual in whom the organs of Conscientiousness and intellect were largely developed : a momentary act of injustice may have been done, through misapprehension or irritation ; but after correct information

has been furnished, and excited feelings have been allowed time to cool, I have found persons so endowed, ever disposed to act on the dictates of Conscientiousness. When, through similar causes, I have been led unintentionally to do them wrong, I have found them, on proper explanations, equally ready to be satisfied with justice. By persons so organized, I have never been maltreated on account of my differing from them in opinion, even when they dissented most widely from my views. Such individuals, when they combated my statements, represented them fairly, and met them by honest argument. On the other hand, I have been assailed by some opponents, who have not scrupled to use falsehood, misquotation, and misrepresentation, as weapons of attack. In their heads I have uniformly observed the organ of Conscientiousness to be deficient.

The dispute among philosophers about the existence of moral sentiments in the human mind, is of very ancient standing, and it has been conducted with great eagerness since the publication of the writings of Hobbes in the middle of the seventeenth century. This author taught, "That we approve of virtuous actions, or of actions beneficial to society, from self-love; because we know, that whatever promotes the interest of society, has on that very account an indirect tendency to promote our own." He farther taught, that, "As it is to the institution of government we are indebted for all the comforts and the confidence of social life, the laws which the civil magistrate enjoins are the ultimate standards of morality."¹

Cudworth, in opposition to Hobbes, endeavoured to shew that the origin of our notions of right and wrong is to be found in a particular power of the mind, which distinguishes truth from falsehood.

Mandeville, who published in the beginning of the last century, maintained, as his theory of morals, That by nature man is utterly selfish; that, among other desires which he likes to gratify, he has received a strong appetite for praise;

¹ Stewart's *Outlines*, p. 128.

that the founders of society, availing themselves of this propensity, instituted the custom of dealing out a certain measure of applause for each sacrifice made by selfishness to the public good, and called the sacrifice Virtue. "Men are led, accordingly, to purchase this praise by a fair barter;" and the moral virtues, to use Mandeville's strong expression, are "the *political offspring which flattery begot upon pride.*" And hence, when we see *virtue*, we see only the indulgence of some selfish feeling, or the compromise for this indulgence in expectation of some praise.¹

Dr Clarke, on the other hand, supposes virtue "to consist in the regulation of our conduct, according to certain *fitnesses* which we perceive in things, or a peculiar congruity of certain relations to each other;" and Wollaston, whose views are essentially the same, "supposes virtue to consist in *acting* according to the *truth of things*, in treating objects according to their *real character*, and not according to a character or properties which they truly have not."²

Mr Hume, it is well known, wrote an elaborate treatise, to prove, "that utility is the constituent or measure of virtue;" in short, to use the emphatic language of Dr Smith, "that we have no *other* reason for praising a man, than that for which we commend a chest of drawers."³

There is another system "which makes the *utility* according to which we measure virtue, in every case our own individual advantage." Virtue, according to this system, is the mere search of pleasure, or of personal gratification. "It gives up *one* pleasure, indeed, but it gives it up for a *greater*. It sacrifices a present enjoyment; but it sacrifices it only to obtain some enjoyment, which, in intensity or duration, is fairly worth the sacrifice." Hence, in every instance in which an individual seems to pursue the good of others, *as good*, he seeks his own personal gratification, and nothing else.⁴

¹ *Fable of the Bees*, vol. i. p. 28-38. 8vo. London, 1728; and Brown's *Lectures*, vol. iv. p. 4.

² Brown's *Lectures*, vol. iv. p. 17.

³ Brown's *Lectures*, vol. iv. p. 32.

⁴ Id. p. 64.

Dr Hutcheson, again, strenuously maintains the existence of a moral sense, on which our perceptions of virtue are founded, independently of all other considerations.

Dr Paley, the most popular of all authors on moral philosophy, does not admit a natural sentiment of right and wrong as the foundation of virtue, but is also an adherent of the selfish system, under a modified form. He makes virtue consist in "the doing good to mankind, in obedience to the will of God, and *for the sake of everlasting happiness.*"¹ According to this doctrine, "the will of God is our rule, but private happiness our motive;" which is just selfishness in another form.

Dr Adam Smith, in his *Theory of Moral Sentiments*, endeavours to shew, that the standard of moral approbation is *sympathy*, on the part of the impartial spectator, with the action and object of the party whose conduct is judged of.

Dr Reid, Lord Kames, and Mr Stewart, maintain the existence of a faculty in man, which produces the sentiment of right and wrong, independently of any other consideration.

Dr Benjamin Rush maintains the existence of a moral faculty, and treats of the influences of physical causes upon it. He regards it as a self-acting emotion. His words are—"It is worthy of notice, that while *second* thoughts are best in matters of judgment, *first* thoughts are always to be preferred in matters that relate to morality; *second* thoughts, in these cases, are generally parlies between duty and corrupted inclinations. Hence, Rousseau has justly said that a well regulated moral instinct is the surest guide to happiness." *Rush's Enquiry*, p. 13.

These disputes are as far from being terminated among metaphysicians at present, as they were a century ago. A writer on the subject, the author of the article MORAL PHILOSOPHY in *The Edinburgh Encyclopædia*, disputes the existence of a moral sense, and founds virtue upon religion and

¹ Brown's *Lectures*, vol. iv. p. 10, 101.

utility. Sir James Mackintosh, in his Dissertation on the progress of Ethical Philosophy, prefixed to the *Encyclopædia Britannica*, gives an account of conscience which I confess myself unable to comprehend. He speaks of it as formed of “*many elements*,” and by “the combination of elements so unlike as the private desires and the social affections.” “It becomes,” says he, “from these circumstances, more difficult to distinguish its separate principles, and it is impossible to exhibit them in separate action.” (P. 409.)

I have introduced this sketch of conflicting theories, to convey some idea of the boon which Phrenology would confer upon moral science, if it could fix on a firm basis this single point in the philosophy of mind,—That, not only are we endowed with sentiments giving rise to disinterested inclination to benefit our fellow creatures, and to reverence goodness and greatness, but moreover, with a power or faculty, the object of which is to produce the feeling of duty and obligation, independently of selfishness, hope of reward, fear of punishment, or any extrinsic motive ; a faculty, in short, the natural language of which is, “*Fiat justitia, ruat cælum.*” Phrenology does this by a demonstration, founded on numerous observations, that those persons who have the organ of Benevolence large are disposed to perform acts of kindness ; those in whom that of Veneration is large are inclined to reverence, and those whose organ of Conscientiousness is greatly developed experience powerfully the sentiment of justice ; while those who have the parts in question small, are little alive to the corresponding emotions. This evidence is the same in kind as that adduced in support of the conclusions of physical science.

Conscientiousness, *when aided by enlightened intellect*, is of the very highest importance as a regulator of all the other faculties. When they tend to overstep, or fall below, the limits of justice, it furnishes the curb or applies the spur. If Combativeness and Destructiveness be too active, Conscientiousness then prescribes a limit to their indulgence ; it permits defence, but no malicious aggression : if Acquisitive-

ness urge too keenly, it reminds us of the rights of others : if Benevolence tend towards profusion, this faculty issues the admonition, Be just before you are generous : if Ideality aspire to its high delights, when duty requires laborious exertions in an humble sphere, Conscientiousness supplies the curb, and bids the soaring spirit restrain its wing. If Acquisitiveness be too feeble to prompt to industry, this combination of powers calls aloud on us to labour, that we may do justice to those towards whom we lie under obligations. In these results, I consider the feeling of duty, obligation, or incumbency, to arise from Conscientiousness. From this regulating quality, Conscientiousness is an important element in constituting a practical judgment and an upright and consistent character. Hence its cultivation in children is of great importance.¹

When this faculty is powerful, the individual is disposed to regulate his conduct by the nicest sentiments of justice : there is an earnestness, integrity, and directness in his manner, which inspire us with confidence, and give us a conviction of his sincerity. Such an individual desires to act justly from the love of justice, unbiassed by fear, interest, or any sinister motive.

The activity of Conscientiousness takes a wider range than regard merely to the legal rights and property of others. It prompts those in whom it is strong, to do justice in judging of the conduct, the opinions, and the talents of others. Such persons are scrupulous, and as ready to condemn themselves as to find fault with others. When predominant, it leads to punctuality in keeping appointments, because it is injustice to sacrifice the time and convenience of others, by causing them to wait till our selfishness finds it agreeable to meet them. It prompts to ready payment of debts, as a piece of justice to those to whom they are due. It will not permit even a tax-collector to be sent away unsatisfied, from any cause except inability to pay ; because it is injustice to him,

¹ Much attention is paid to the training of Conscientiousness in the Infant Schools of Mr Wilderspin. See *Phren. Journ.* vi. 429.

as it is to clerks, servants, and all others, to require them to consume their time in unnecessary solicitation of what is justly due and ought at once to be paid. It leads also to great reserve in making promises, but to much punctuality in performing them. When combined with a favourable development of other organs, it gives consistency to conduct ; because, when every sentiment is regulated by justice, the result is that “ daily beauty in the life ” which renders the individual in the highest degree amiable, useful, and respectable. It communicates a pleasing simplicity to the manners, which commands the esteem, and wins the affection, of all well-constituted minds.

In practical life, when it predominates over Benevolence, it renders the individual a strict disciplinarian, and a rigid, although a just, master. It disposes him to invest all actions with a character of duty or obligation, so that if a servant misplace any article, it is not simply an error, but a fault. Some very estimable persons, by giving way to this tendency in matters of trivial importance, render themselves not a little disagreeable.

A deficiency of Conscientiousness produces effects exactly opposite. The weakness of the faculty appears in the general sentiments of the individual, although circumstances may place him beyond the reach of temptation to infringe the law. The predominant propensities and sentiments then act without this powerful regulator. If Adhesiveness and Benevolence attach him to a friend, he is blind to all his imperfections, and extols him as the most matchless of human beings. If this model of excellence happen to offend, he becomes a monster of ingratitude and baseness ; he passes in an instant from an angel to a demon. Had Conscientiousness been large, he would have been viewed all along as a man ; esteem towards him would have been regulated by principle, and the offence candidly dealt with. If Love of Approbation be large, and Conscientiousness deficient, the former will prompt to the adoption of every means that will please, without the least regard to justice and propriety. If an individual have a weak point in his character, Love of

Approbation will then lead to flattering it ; if he have extravagant expectations, it will join in all his hopes ; if he be displeased with particular persons, it will affect to hate with his hatred, altogether independently of justice. In short, the individual in whom this faculty is deficient, is apt to act and also to judge of the conduct of others, exactly according to his predominant sentiments for the time : he is friendly when under the impulse of Benevolence, and severe when Destructiveness predominates : he admires when his pride, vanity, or affection, gives him a favourable feeling towards others ; and condemns when his sentiments take an opposite direction ; always unregulated by principle. He is not scrupulous, and rarely condemns his own conduct, or acknowledges himself in the wrong. Minds so constituted may be amiable, and may display many excellent qualities ; but they are never to be relied on where justice is concerned. As judges, their decisions are unsound ; as friends, they are liable to exact too much and perform too little ; as sellers, they are prone to misrepresent, adulterate, and overcharge—as buyers, to depreciate quality and quantity, or to evade payment.

The laws of honour, as apprehended by some minds, are founded on the absence of Conscientiousness, with great predominance of Self-Esteem and Love of Approbation. If a gentleman is conscious that he has unjustly given offence to another, it is conceived by many that he will degrade himself by making an apology ; that it is his duty to fight, but not to acknowledge himself in fault. This is the feeling produced by powerful Self-Esteem and Love of Approbation, with great deficiency of Conscientiousness. Self-Esteem is mortified by an admission of fallibility, while Love of Approbation suffers under the feeling that the esteem of the world will be lost by such an acknowledgement ; and if no higher sentiment be present in a sufficient degree, the wretched victim will go to the field and die in support of conduct that is indefensible. When Conscientiousness is strong, the possessor, when he is aware that he is in the wrong, feels it no degradation to acknowledge himself in fault : in fact, he rises

in his own esteem by doing so, and knows that he acquires the respect of well constituted minds ; while, if fully conscious of being in the right, there is none more inflexible than he.

This sentiment is essential to the formation of a truly philosophic mind, especially in moral investigations. It produces the desire of discovering truth, the tact of recognising it when discovered, and that perfect reliance on its invincible supremacy, which gives at once dignity and peace to the mind. A person in whom Conscientiousness, Benevolence, and Veneration are deficient, views moral propositions as mere opinions ; esteems them exactly as they are fashionable or the reverse, and cares nothing about the evidence on which they are based. Self-Esteem and Secretiveness, joined with deficiency of this sentiment, lead to paradox ; and if Combativeness be added, there will be a tendency to general scepticism, and the denial or disputation of the best-established truths on every serious subject.

No sentiment is more incomprehensible to those in whom the organ is small, than Conscientiousness. They are able to understand conduct proceeding from ambition, self-interest, revenge, or any other inferior motive ; but that determination of soul, which suffers obloquy and reproach, nay death itself, from the pure and disinterested love of truth, is to them utterly unintelligible. They regard it as a species of insanity, and look on the individual as “essentially mad, without knowing it.” Madame de Stael narrates of Bonaparte, that he never was so completely at fault in his estimate of character, as when he met with opposition from a person actuated by the pure principle of integrity alone. He did not comprehend the motives of such a man, and could not imagine how he might be managed. The maxim, that “every man has his price,” will be regarded as profoundly discriminative by those in whom Acquisitiveness or Love of Approbation is very large, and Conscientiousness moderate ; but there are minds whose deviation from the paths of rectitude no price can purchase, and no honours pro-

cure ; and those in whom Conscientiousness, Firmness, and Reflection, are powerful, will give an instinctive assent to the truth of this proposition.

I have observed that individuals in whom Love of Approbation was large, and Conscientiousness not in equal proportion, were incapable of conceiving the motive which could lead any one to avow a belief in Phrenology, while the tide of ridicule ran unstemmed against it. If public opinion should change, such persons would move foremost in the train of its admirers : They instinctively follow the doctrines that are most esteemed from day to day ; and require our pity and forbearance, as their conduct proceeds from a great moral deficiency, which is their misfortune rather than their fault.

The fact that this organ is occasionally deficient in individuals in whom the organs of intellect are amply developed, and the animal propensities strong, accounts for the unprincipled baseness and moral depravity exhibited by some men of unquestionable talents. It is here, as in other cases, of the greatest importance to attend to the distinct functions of the several faculties of the mind. No mistake is more generally committed than that of conceiving, that, by exercising the faculty of Veneration, we cultivate those of Benevolence and Justice : but if Veneration be large, and Conscientiousness small, a man may be naturally disposed to piety and not to justice ; or if the combination be reversed, he may be just and not pious, in the same manner as he may be blind and not deaf, or deaf and not blind. Deficiency of Veneration, as before observed, does not necessarily imply profanity ; so that, although an individual will scarcely be found who is profane and at the same time just, yet many will be found who are just and not pious, and *vice versa*.

Conscientiousness, when powerful, is attended with a sense of its own paramount authority over every other faculty, and it gives its impulses with a tone which appears like the voice of Heaven. The scene in *The Heart of Mid-Lothian*, in which Jeanie Deans is represented giving evidence on her sister's trial at the bar of the High Court of Justiciary, af-

fords a striking illustration of its functions and authority when supported by piety. A strong sense of the imperious dictates of Conscientiousness, and of the supreme obligation of truth, leads her to sacrifice every interest and affection which could make the mind swerve from the paths of duty ; and we perceive her holding by her integrity, at the expense of every other feeling dear to human nature.

Repentance, remorse, a sense of guilt and demerit, on account of unjust actions, are the consequences of this faculty. It is a mistake, however, to suppose, that great criminals are punished by the accusations of conscience ; for this organ is generally very deficient in men who have devoted their lives to crime, and, in consequence, they are strangers to the sentiment of remorse. Haggart felt regret for having murdered the jailor at Dumfries, but no remorse for his thefts. His large Benevolence induced the uneasy feeling on account of the first crime, and his small Conscientiousness was the cause of his indifference to the second. If Conscientiousness had been strong, he could not have endured the sense of the accumulated iniquities with which his life was stained. In Bellingham, both Benevolence and Conscientiousness were small, and he manifested equal insensibility to justice and mercy, and testified no repentance or remorse.

Dr Gall did not admit a faculty and organ of Conscientiousness. He formerly considered remorse as the result of the opposition of particular actions to the predominant dispositions of the individual ; and, according to him, there are as many consciences as faculties. For example, if a person in whom Benevolence was large, injured another, this faculty would be grieved ; and the feeling so arising, he considered to be regret or repentance. If a usurer or a libertine neglected an opportunity, he would repent, the former for not having gratified Acquisitiveness, the latter for not having seduced some innocent victim. Dr Gall called this *natural conscience*, and said that we could not trust to it, and that hence laws and positive institutions become necessary. Dr

Spurzheim answered this argument in an able manner, and shewed that the mere feeling of regret is totally different from that of remorse. We may regret that we lost a pair of gloves, or spent half-a-crown ; but this feeling bears no resemblance to the upbraidings of conscience for having robbed a neighbour of his right, committed a fraud, or uttered a malevolent falsehood. Dr Gall latterly regarded Benevolence as the moral faculty : but the sentiment of duty and incumbency, where the rights of others are concerned, is as clearly distinguishable from mere goodness or kindness, as hope is from fear ; and, besides, positive facts prove that the two feelings depend on different organs.

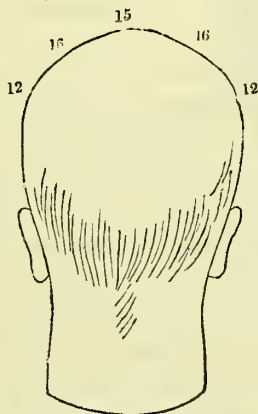
When this organ is deficient, and Secretiveness large, and especially when the latter is aided by Ideality and Wonder, a natural tendency to lying is produced, which some individuals, who have possessed the advantages of education and moved in good society, have never been able to overcome.

Some criminals, on being detected, confess, and seem to court punishment as the only means of assuaging the remorse with which their minds are devoured. The Phrenological Society has a cast of the skull of one person who displayed this desire to atone for his crime. It is that of John Rotherham, who met a servant-girl on the highway and murdered her, out of the pure wanton impulse of Destructiveness ; for he did not attempt to violate her person ; and, of her property, he took only her umbrella and shoes. When apprehended, he confessed his crime, insisted on pleading guilty, and with great difficulty was induced by the judge to retract his admission. The organ is large in him. He appears to have acted under the influence of excessive Destructiveness. James Gordon, on the contrary, who murdered a pedlar boy in Eskdale Muir, stoutly denied his guilt, and, after conviction, abused the jury and judge for condemning him. Before his execution, however, he admitted that his sentence was just. In him, the organ of Conscientiousness is defective.

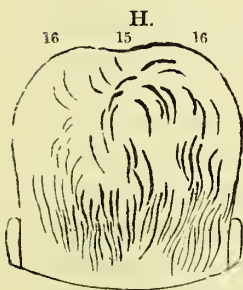
The organ is very large in Mr H., the Rev. Mr M., Dr Hette, and Rammohun Roy, who all manifested the senti-

ment powerfully. Considerable attention is requisite to discriminate accurately the size of this organ. When Firmness is large and Conscientiousness small, the head slopes at an acute angle downwards from Firmness, as in Haggart and King Robert Bruce. When both Firmness and Conscientiousness are large, the head rises considerably from Cautiousness to Firmness, with a full and rounded swell, as in the Rev. Mr M., p. 184. When both of these organs are small, the head rises very little above Cautiousness, but runs flat across to Cautiousness on the other side, as in the boy.

DAVID HAGGART.

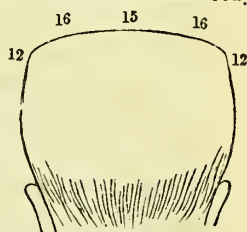


Firmness large, Conscientiousness deficient.



Firmness small, and Conscientiousness large.

Boy addicted to falsehood.



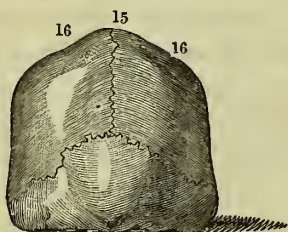
Firmness and Conscientiousness deficient.

In Mrs H., Firmness 15 is small, and Conscientiousness 16 large; in D. Haggart, Firmness 15 is large, and Conscientiousness 16 deficient: and in the boy both of these organs are deficient, which is indicated by the head rising very little above 12 Cautiousness. If in Mrs H. Firmness had been as large as Conscientiousness, or in Haggart Conscientiousness had been as large as Firmness, the heads would have presented a full and elevated segment of a circle passing from Cautiousness to Cautiousness, the very opposite of the flat and low line in the head of the boy. It is of great importance in practice to attend to these different forms.

The *difference of development* of this organ in different nations and individuals, and its combinations with other organs, enable us to account for the differences in the notions of justice entertained at different times, and by different people.

The sentiment of truth is found by the English judges to be so low in the Africans, the Hindoos, and the aboriginal Americans, that such individuals are not received as witnesses in the colonial courts ; and it is a curious fact, that a defect in the organ of Conscientiousness is a reigning feature in the skulls of these nations in the possession of the Phrenological Society.¹ It is small likewise in the Esquimaux, who are

ESQUIMAUX.



notoriously addicted to dishonesty and theft.² The notions of justice of that individual are most fit to be assumed as a standard, in whom this organ is decidedly large, in combination with a large endowment of the or-

gans of the other moral sentiments and intellect, and all highly cultivated, just as we hold the person possessed of the greatest organ of Tune, in combination with the organs of the moral sentiments and reflection, and who has also most cultivated the science of music, to be the best judge of musical compositions. It is obvious, also, that laws, or positive commands, ordering and forbidding certain actions, become necessary as rules to those who do not possess an endowment of this sentiment sufficiently powerful to prompt them to regulate their conduct according to justice. Those who are favourably gifted, are, in the language of St Paul, “ a law unto themselves.”

It has been objected, that persons possessing a large development of this organ, not unfrequently act in opposition to the dictates of the sentiment, and practise selfishness, or sacrifice justice to ambition, exactly as those do in whom the organ is small ; and it is asked, What becomes of the organ in such instances ? The plurality of organs and faculties explains this phenomenon. Conscientiousness is not the only faculty in the mind, and, although it is paramount in authority, it is not always so in activity. A person in whom Be-

¹ See *Phren. Journ.*, viii. 515, 530, 581.

² *Id.* p. 301.

nevolence and Destructiveness are both large, may, under special circumstances which strongly excite Destructiveness, manifest that faculty in rage, revenge, or undue severity, in direct opposition to Benevolence. In like manner an individual in whom Acquisitiveness and Self-Esteem are large, may, if these are very forcibly addressed, obey their impulses in opposition to that of Conscientiousness. But the benevolent man, when the temptation is past, feels the opposition between his conduct and the dictates of Benevolence ; and, in like manner, the individual here supposed, on cool reflection, becomes conscious of the opposition between his unjust preference of himself, and the dictates of Conscientiousness : both will repent, and will make atonement, and desire to avoid repetition of such offences. If Benevolence and Conscientiousness were small, they would not feel that their actions were wrong ; they would experience no remorse ; and their lower faculties would operate with greatly increased violence. I have observed in practical life, that when Conscientiousness is large in any individual, he yields compliance to demands made on him whenever a strong case in justice is made out by the applicant ; but when the organ is not large, he is moved only by favour or partiality. It is of the utmost importance to the respectability of Government, and the welfare of the people, that public functionaries should possess the former character. The necessity of it in persons in authority will be more and more felt as society advances in knowledge, discrimination, and morality.

Another difficulty is experienced in the doctrine, that Conscientiousness is merely a sentiment, and does not *by itself* lead to the perception of justice. This will be best removed by an example. A judge hears one side of a cause, and Conscientiousness, acting on the statement presented to it through the medium of the intellect, produces the feeling that the demands of this party are just. The other litigant is heard, new facts appear, and Conscientiousness may now produce the feeling that justice lies on his side. If this fa-

culty itself had formed specific ideas of what is just, it would have been an intellectual power, and reasoning would have been in proportion to it, which is not the case ; but, as it is only a sentiment, its real function is to produce an emotion of justice or injustice, on any particular case or assemblage of facts being presented to it by the intellect. In judicial trials, we do not find Conscientiousness producing opposite emotions on the same case ; but the intellect presenting different cases, or different views of the same case, and Conscientiousness producing its peculiar emotion in regard to each, according as it is laid before it. In framing laws or rules of justice, not only is a powerful intellect necessary to penetrate into the relations of actions, but a good endowment of all the organs of the propensities and sentiments, is also indispensable to furnish the understanding with adequate knowledge of the fundamental impulses and emotions on which it must reason and decide.

In my work on “Moral Philosophy,”¹ to which I beg leave to refer, I have stated the qualities which constitute actions virtuous or vicious, and also the theory of merit.

The organ of Conscientiousness is occasionally found diseased, and then the most awful sentiments of guilt, generally imaginary, harrow up the mind. I have seen two individuals labouring under this disease. One of them believed himself to be in debt to an enormous amount, which he had no means of paying ; the other imagined himself to be guilty of murder, and of every variety of wickedness contained in the records of iniquity ; whereas, in fact, the whole conduct of both while in health, has been marked by the greatest humanity, honour, and scrupulosity. When this organ, and that of Cautiousness, are diseased at the same time, the individual imagines himself to be the most worthless of sinners, and is visited with fearful apprehensions of punishment. Such patients sometimes present a picture of despair which is truly appalling. Slight degrees of disease of these organs

¹ Second Edition, p. 19, *et seq.*

not amounting to insanity, are not unfrequent in this country, and produce an inward trouble of the mind, which throws a gloom over life, and leads the patient to see only the terrors of religion. Such persons are greatly relieved by being convinced that the cause of their unhappy feeling is disease in the mental organs, and that they may in general be restored to health by proper medical treatment. If they are religiously disposed, their anxiety will probably be directed to their salvation. If they are worldly-minded, the fear of ruin, or of inability to meet their engagements, will probably be the form in which the disease will appear. In all cases, however, where there are no adequate external causes for the impressions, they may be regarded as really arising from disease of the mental organs, the feelings only being differently directed, according to the character of each individual. I have known great injury done to the health, by treating these depressions, when they occurred in amiable persons, on exclusively religious principles ; and very respectfully, but earnestly, recommend to the friends of such patients to call in a physician as well as a clergyman for their relief.¹

In the first edition of this work, I stated that gratitude probably arises from this faculty ; but Sir G. S. Mackenzie, in his *Illustrations of Phrenology*, has shewn that gratitude is much heightened by Benevolence,—a view in which I now fully acquiesce.

It is premature to speak of the combinations of the faculties, before we have finished the detail of the simple functions ; but this is the most proper occasion, in other respects, to observe, that Phrenology enables us to account for the origin of the various theories of morals before enumerated.

Hobbes, for instance, denied every natural sentiment of justice, and erected the laws of the civil magistrate into the standard of morality. This doctrine would appear natural and sound to a person in whom Conscientiousness was very feeble ; who never experienced in his own mind a single emo-

¹ See Dr A. Combe's *Observations on Mental Derangement*, pp. 187, 196.

tion of justice, but who was alive to fear, to the desire of property, and to other affections which would render security and regular government desirable. It seems to me probable that Hobbes was so constituted.

Mandeville makes selfishness the basis of all our actions, but admits a strong appetite for praise ; the desire for which, he says, leads men to abate other enjoyments for the sake of obtaining it. If we conceive Mandeville to have possessed a deficient Conscientiousness, and a large love of Approbation, this doctrine would be the natural product of his mind.

Mr Hume erects utility, to ourselves or others, into the standard of virtue ; and this would be the natural feeling of a mind in which Benevolence and Reflection were strong, and Conscientiousness weak.

Paley makes virtue consist in obeying the will of God, as our rule, and doing so for the sake of eternal happiness as the motive. This is the natural emanation of a mind where the selfish or lower propensities are considerable, and in which Veneration is strong, and Conscientiousness not remarkable for vigour.

Cudworth, Hutcheson, Reid, Kames, Stewart, and Brown,¹

¹ I embrace this opportunity of paying an humble tribute to the talents of the late Dr Thomas Brown. The acuteness, depth, and comprehensiveness of intellect displayed in his works on the mind, place him in the highest rank of philosophical authors ; and these great qualities are equalled by the purity and vividness of his moral perceptions. His powers of analysis are unrivalled, and his eloquence is frequently splendid. His *Lectures* will remain a monument of what the human mind was capable of accomplishing, in investigating its own constitution, by an imperfect method. In proportion as Phrenology shall become known, the admiration of his genius will increase ; for it is the highest praise to say, that in regard to many points of great difficulty and importance in the Philosophy of Mind, he has arrived, by his own reflections, at conclusions harmonizing with those obtained by phrenological observation. Of this, his doctrine on the moral emotion discussed in the text, is a striking instance. Sometimes, indeed, his arguments are subtle, his distinctions too refined, and his style circuitous ; but the phrenologist will pass lightly over these imperfections, for they occur only occasionally, and arise from mere ex-

on the other hand, contend most eagerly and eloquently for the existence of an original sentiment or emotion of justice in the mind, altogether independent of other considerations ; and this is the natural feeling of persons in whom the faculty is powerful. A much respected individual, in whom this organ is predominantly large, mentioned to me, that no circumstance in philosophy occasioned to him greater surprise, than the denial of the existence of a moral faculty ; and that the attempts to prove it appeared to him like endeavours to prop up, by demonstration, a self-evident axiom in mathematical science.

In the *Phren. Journ.* vol. xv. p. 367, a case is mentioned in which the organ was excited by Mesmerism.

The organ is regarded as established.

17.—HOPE.

THIS organ is situated on each side of that of Veneration, and extends under part of the frontal and part of the parietal bones. It cannot be brought into outline in a drawing, and on this account no figure is given.

Dr Gall considered hope as belonging to every faculty ; but Dr Spurzheim very properly observes, that although every faculty being active produces *desire*—as Acquisitiveness the desire for property, and Love of Approbation the desire for praise ; yet this is very different from hope, which is a simple emotion *sui generis*, susceptible of being directed

cess of the faculties of Secretiveness, Comparison, Causality, and Wit ; on a great endowment of which, along with Concentrativeness, his penetration and comprehensiveness depended. In fact he possessed the organs of these powers largely developed, and they afford a key to his genius.—Whether he drew any of his lights from Phrenology is uncertain. He was acquainted with the philosophy of Dr Gall, for he wrote the *critique* on his doctrines, which appeared in the 3d No. of *The Edinburgh Review* in 1803, but he then condemned them. He survived the publication of Dr Spurzheim's works in English ; but I have been told that he did not alter his lectures from the first form in which he produced them

in a great variety of ways, but not desiring any one class of things as its peculiar objects. Nay, desire is sometimes strong, when hope is feeble or extinct: a criminal on the scaffold may ardently desire to live, when he has no hope of escaping death. Dr Spurzheim was convinced, by analysis, that hope is a distinct primitive sentiment; and was led to expect that an organ for it would be found. Numerous observations have since determined the situation of the organ, on the sides of Veneration; and it is now admitted by phrenologists in general as established. Dr Gall, however, continued till his death to mark the function of this part of the brain as unascertained.

The faculty produces the emotion of Hope in general without any propensity to act in a specific manner. It gives the tendency to believe in the future attainment of what the other faculties desire, but without giving the conviction of it, which depends on the intellect. Thus a person with much Hope and much Acquisitiveness, will expect to become rich; another, with much Hope and great Love of Approbation, will hope to rise to eminence; and a third, with much Hope and Love of Life, will hope to enjoy a long and a happy existence. It inspires with gay, fascinating, and delightful emotions; painting futurity fair and smiling as the regions of primitive bliss. It invests every distant prospect with hues of enchanting brilliancy, while Cautiousness hangs clouds and mists over remote objects seen by the mind's eye. Hence, he who has Hope more powerful than Cautiousness, lives in the enjoyment of brilliant anticipations which are never realized; while he who has Cautiousness more powerful than Hope, habitually labours under the painful apprehension of evils which rarely exist except in his own imagination. The former enjoys the present, without being annoyed by fears about the future; for Hope supplies his futurity with every object which his fancy desires, undisturbed by the distance or difficulty of attainment: the latter, on the other hand, cannot enjoy the pleasures within his reach, through fear that, at some future time, they may

be lost. The life of such an individual is spent in painful apprehension of evils, to which he is in fact very little exposed; for the dread of their happening excites him to ward them off by so many precautions that they rarely overtake him.

When predominant, and too energetic, this faculty disposes to credulity with respect to what we desire to attain, and, in mercantile men, leads to rash and inconsiderate speculation. Persons so endowed never see their own situation in its true light, but are prompted by extravagant Hope to magnify tenfold every advantage, while they are blind to every obstacle and abatement. They promise largely, but if Conscientiousness be deficient, they rarely perform. Intentional deception, however, is not always their object; they are misled themselves by their constitutional tendency to believe every thing possible that is future, and they promise in the spirit of this credulity. Those who perceive this disposition in them, should exercise their own judgment on the possibility of performance, and make the necessary abatement in their anticipations. Experience accomplishes little in improving the judgment of those who possess too large an organ of Hope, combined with deficient Cautiousness: the tendency to expect immoderately being constitutional, they have it not in their power to see both sides of the prospect; and, beholding only that which is fair, they are involuntarily led to form extravagant expectations. When the organ is very deficient, and that of Cautiousness large, a gloomy despondency is apt to invade the mind; and if Destructiveness be strong, the individual may resort to suicide in order to escape from woe.

This faculty, if not combined with much Acquisitiveness or Love of Approbation, disposes to indolence, from the very promise which it holds out of the future providing for itself. If, on the other hand, it be combined with these organs in a full degree, it acts as a spur to the mind, by uniformly representing the objects desired as attainable. An individual

with much Acquisitiveness, great Cautiousness, and *little Hope*, will *save* to become rich ; another, with the same Acquisitiveness, little Cautiousness, and *much Hope*, will *speculate* to procure wealth. I have found Hope and Acquisitiveness large in persons addicted to gaming.

Hope has a great effect in assuaging the fear of death. I have seen persons in whom it was very large die by inches, and linger for months on the brink of the grave, without suspicion of the fate impending over them. They *hoped* to be well, till death extinguished the last ember of the feeling. On the other hand, when Hope, and Combativeness, which gives courage, are small, and Cautiousness and Conscientiousness large, the strongest assurances of the Gospel are not always sufficient to enable the individual to look with composure or confidence on the prospect of a judgment to come. Several persons in whom this combination occurs, have told me that they lived in a state of habitual uneasiness in looking forward to the hour of death ; while others, with a large Hope and small Cautiousness, have said that such a ground of alarm never once entered their imaginations. Our hopes or fears on a point of such importance as our condition in a future state, ought to be founded on grounds more stable than mere constitutional feeling ; but I mention these cases to draw attention to the fact, that this cause sometimes tinges the whole conclusions of the judgment. When the existence of such a cause of delusion is known, its effects may more easily be resisted.

In religion, this faculty favours the exercise of faith ; and by producing the natural tendency to look forward to futurity with expectation, disposes to belief in a happy life to come.

The metaphysicians admit this faculty, so that Phrenology reveals only its organ, and the effects of its endowment in different degrees. I have already stated an argument in favour of the being of a God, founded on the existence of a faculty of Veneration conferring the tendency to worship, of which God is the proper and ultimate object. May not the

probability of a future state be supported by a similar deduction from the possession of a faculty of Hope? It appears to me that this is the faculty from which originates the notion of futurity, and which carries the mind forward in endless progression into periods of everlasting time. May it not be inferred, that this instinctive tendency to leave the present scene and all its enjoyments, to spring forward into the regions of a far distant futurity, and to expatiate, even in imagination, in the fields of an eternity to come, denotes that man is formed for a more glorious destiny than to perish for ever in the grave? Addison beautifully enforces this argument in the *Spectator*, and in the soliloquy of Cato; and Phrenology gives weight to his reasoning, by shewing that this ardent hope, and "longing after immortality," are not factitious sentiments, or a mere product of an idle and wandering imagination, but that they are the results of two primitive faculties of the mind, Love of Life and Hope, which owe their existence and functions to the Creator.

In the *Phrenological Journal*, vol. x., p. 449, Dr Abram Cox reports a case in which, after death, the organ of Hope on the right was found injured by disease, and the manifestations had been affected during life. In the same work, vol. xii., p. 157, Dr W. A. F. Browne reports a case, in which a patient, a flax-dresser, aged forty, had received a tremendous blow from a shoemaker's hammer, which fractured and depressed the skull, on the right side, injured the brain, and rendered trephining necessary. A large piece of bone had been removed. The situation of the injury corresponded to the organ of Hope, including the confines of Conscientiousness and Veneration, and several years afterwards he applied to Dr Browne for medical advice. At his first interview in autumn 1836, he denied that he was, or had been, less cheerful or less hopeful than previous to the infliction of the injury. In autumn 1837, he returned and confessed that he had formerly deceived Dr B., adding, "That for years he had been occasionally unhappy and desponding,

but that now his feelings of depression and despair were so constantly awful and unbearable, that unless Dr B. could do something for him he was lost. His fears were indefinite; but they, more or less, affected every train of thought, clouded every prospect, and incapacitated him for life or work." In December 1837, his whole mind participated in the disease. He was sent to the Montrose Lunatic Asylum, under Dr Browne's management, where some slight mitigation of the symptoms took place, but no radical cure, when Dr B. ceased to be connected with that Institution. In the same Journal, vol. xiii., p. 80, a case is reported by Mr E. J. Hytche, in which it is stated that the "organ of Hope is not merely depressed, but is sunken to such a degree, that, on the right side, half the depth of the nail of the fore-finger can be placed in the hollow. This portion of the skull, says he, is very thin, and indicates some organic defect; for if it receives the slightest pressure, pain is immediately produced, which continues until the pressure is removed." The individual was twenty years of age, of the sanguine temperament, and the organ of Cautiousness is broad and prominent. "He is much subject to depression of mind," and "even when circumstances wear the most favourable aspect, he incessantly conjures up some evil awaiting to derange every plan, and blast all his goodly prospects." In vol. xv., p. 35, Dr Otto discusses the influence of different diseases and different kinds of food on the different organs; "when the heart and lungs suffer," says he, "Hope is ever active, and along with it Ideality, and all the intellectual faculties."

Pope beautifully describes the influence of the sentiment of Veneration in prompting us to worship—blindly, indeed, when undirected by information superior to its own. He also falls into the idea now started in regard to Hope, and represents it as the source of that expectation of a future state of existence, which seems to be the joy and delight of human nature, in whatever stage of improvement it has been found.

“ Lo! the poor Indian whose untutored mind
 Sees God in clouds, or hears him in the wind;
 His soul proud science never taught to stray
 Far as the solar walk or Milky Way;
 Yet simple nature to his *hope* has given,
 Behind the cloud-topt hill an humbler heaven;
 Some safer world, in depth of woods embraced;
 Some happier island in the watery waste;
 Where slaves once more their native land behold,
 No fiends torment, no Christians thirst for gold.”

The organ is regarded as established.

18. WONDER.

THIS organ is situated immediately above Ideality, in the lateral parts of the anterior region of the vertex.

Dr Gall observed, that some individuals imagine themselves to be visited by apparitions of persons dead or absent; and he asks, How does it happen, that men of considerable intellect often believe in the reality of ghosts and visions? Are they fools, or impostors? or is there a particular organization, which imposes, in this form, on the human understanding? and how are such illusions to be explained? He then enters into a historical sketch of the most remarkable instances of visions. Socrates spoke frequently and willingly to his disciples of a demon or spirit, which served him as a guide. Dr Gall remarks, that he is quite aware of the common explanation, that Socrates referred only to the force and justness of his own understanding; but adds, that if he had not himself believed in a genius communicating with him, the opinion that he had one would have been lost in the twenty-three years during which Aristophanes made it a subject of ridicule, and his accusers would not have revived it as a charge against him. Joan of Arc also related an appearance of St Michael to her, who told her that God had pity on France, and that she was commis-

sioned to raise the siege of Orleans, and to install Charles VII. as king, at Rheims. Tasso asserted himself to have been cured by the aid of the Virgin Mary and St Scholastic, who appeared to him during a violent attack of fever. In the historical notes which accompany the Life of Tasso, the following anecdote appears, extracted from the Memoirs of Manso, Marquis of Villa, published after the death of Tasso, his friend.

Tasso, in his delirium, believed that he conversed with familiar spirits. One day when the Marquis endeavoured to drive these ideas from his mind, Tasso said to him, " Since I cannot convince you by reason, I shall do so by experience ; I shall cause the spirit, in which you refuse to believe, to appear before your own eyes." " I accepted the offer," says the Marquis, " and next day, when we sat by the fire conversing, he turned his eyes towards the window, and looking with stedfast attention, appeared so completely absorbed, that when I called to him he did not answer. ' See !' said he at length, ' See ! my familiar spirit comes to converse with me.' I looked with the greatest earnestness, but could see nothing enter the apartment. In the mean time, Tasso began to converse with this mysterious being. I saw and heard himself alone. Sometimes he questioned, and sometimes answered ; and from his answers I gathered the sense of what he had heard. The subject of his discourse was so elevated, and the expressions so sublime, that I felt myself in a kind of ecstasy. I did not venture to interrupt him, or to trouble him with questions, and a considerable time elapsed before the spirit disappeared. I was informed of its departure by Tasso, who, turning towards me, said, ' In future you will cease to doubt.' ' Rather,' said I, ' I shall be more sceptical ; for although I have heard astonishing words, I have seen nothing.' Smiling, he replied, ' You have perhaps heard and seen more than—' He stopped short ; and fearing to importune him by my questions, I dropped the conversation."¹ Dr Gall quotes this dialogue from " La

¹ *Sur les Fonctions du Cerveau*, tome v. p. 341.

Vie du Tasse, publiée à Londres en 1810;" and I have translated from his French version.¹

Swedenborg believed himself miraculously called to reveal to the world the most hidden mysteries. "In 1743," says he, "it pleased the Lord to manifest himself to me, and appear personally before me, to give me a knowledge of the spiritual world, and to place me in communication with angels and spirits, and this power has been continued with me till the present day." Swedenborg, say his biographers, was a man of unquestionable sincerity, but one of the most extravagant enthusiasts that ever existed.²

Dr Gall remarked, in the first fanatic who fell under his observation, a large development of the part of the brain lying between the organs of Ideality and Imitation, and subsequently met with many similar instances. Dr Jung Stilling, whom he often saw with the late Grand Duke of Baden, was a tailor in his youth, then a tutor, afterwards doctor in medicine, moralist, divine, journalist, illuminatus, and visionary; and in him this part of the brain was largely developed. He believed firmly in apparitions, and wrote a book in exposition of this doctrine. In the *Maison de Detention* at Berne, Dr Gall saw a fanatic, who believed that Jesus Christ, surrounded by a brilliant light, as if a million of suns had combined their splendours, had appeared to him to reveal the true religion. A gentleman who moved in the best society in Paris, asked Dr Gall to examine his head. The Doctor's first remark was, "You sometimes see visions, and believe in apparitions." The gentleman started from his chair in astonishment, and said that he *had* frequent visions; but that never, up to this moment, had he spoken on the subject to any human being, through fear of being set down as absurdly credulous. On another occasion, Dr Gall, when he observed the development of the head of a Dr W., told him, that he ought to have a strong liking for the mar-

¹ For the original, see Rev. Mr Black's *Life of Tasso*, vol. ii. p. 240.

² Gall, tome v. p. 342.

vellous and supernatural. "For once," replied he, "you are completely mistaken, for I have laid down the rule to believe in nothing which cannot be mathematically demonstrated." After talking with him on various scientific subjects, Dr Gall turned the conversation towards animal magnetism, which appeared a fit topic to put the mathematical rigour of his proofs to the test. He instantly became greatly animated; assured Dr Gall again very solemnly, that he admitted nothing as true that was not mathematically demonstrated; but added, he was convinced that a spiritual being acted in magnetism,—that it operated at great distances,—that no distance indeed presented an obstacle to its action,—and that, on this account, it could sympathize with persons in any part of the world. "It is the same cause," continued he, which produces apparitions. Apparitions and visions are rare, no doubt, but they undoubtedly exist, and I am acquainted with the laws which regulate their production." "On this occasion," says Dr Gall, "I thought within myself that my inference from his development was not so very erroneous as the worthy doctor wished me to believe."

A man named Halleran, at Vienna, imagined himself continually accompanied by a familiar spirit; he saw the spirit, and conversed with it. When he reached his sixtieth year, his genius appeared as if he wished to leave him; and only on certain days in the month was he favoured with his presence. At Gersbach, near Durlach, in the Grand Duchy of Baden, Dr Gall knew a curate who was confined because he conceived himself to have a familiar spirit. At Mannheim there was a man who saw himself continually attended by several spirits; sometimes they marched at his side in visible forms; at other times they attended him under ground. In these persons Dr Gall found the part of the brain in question largely developed. He states as questions for consideration, "Does this convolution form part of the organ of Imitation? and does its extreme development exalt the talent for mimicry to such a degree, as to personify sim-

ple ideas, and to give them, thus metamorphosed, a locality out of the individual? Or does it constitute parts both of Ideality and Imitation? Or, finally, does it constitute a separate organ? These points can be determined only by farther researches.”¹

Sir Walter Scott observes, that “no man ever succeeded in imposing himself on the public as a supernatural personage, who was not to a certain degree the dupe of his own imposture.”²

Dr Gall mentions, that the organ appears large in the busts of Socrates, Joan of Arc, Cromwell, Swedenborg, and other individuals by whom the tendency before described has been manifested. In the portrait of Tasso, it and Ideality (18 and 19) appear largely developed.

TASSO.



The views of Dr Spurzheim on this faculty are thus ex-

¹ *Sur les Fonctions du Cerveau*, tome v. p. 346.

² *Life of Napoleon Bonaparte*, vol. iv., p. 88.

pressed in his *Phrenology*, p. 206 :—" There is still a sentiment which exerts a very great influence over religious conceptions, and which, in my opinion, contributes more than Veneration to religious faith. Some find all things natural, and regulated by the laws of creation ; many others are amused with fictions, tales of wonders, and miraculous occurrences. They find in every passing event extraordinary and wonderful circumstances, and are constantly searching after whatever can excite admiration and astonishment. This sentiment is to be observed among mankind at large, both among savages and civilized nations. In every age, and under every sky, man has been guided and led by his credulity and superstition. The founders of all nations have had a fabulous origin ascribed to them, and in all countries miraculous traditions and marvellous stories occur in ample abundance. There are many disposed to believe in dreams, sorcery, magic, astrology, in the mystic influence of spirits and angels, in the power of the devil, in second sight, and in miracles and incomprehensible representations of all sorts. Some, also, are disposed to have visions, and to see ghosts, demons, and phantoms. This sentiment gains credence to the true and also to the false prophet, aids superstition, but is also essential to faith and refined religion. It is more or less active, not only in different individuals, but also in whole nations. Its functions are often disordered, constituting one species of insanity.

" The legislators of antiquity, aware of the great influence of this faculty, made frequent use of it to enforce and to confirm their laws. They spoke in the name of God, of angels, or of supernatural powers. In our own days, the religious sects of Swedenborgians, Methodists, Quakers, and many others, particularly demonstrate its influence and presence. In dramatic representations, the introduction of ghosts, angels, transformations, and supernatural events, proclaims its activity both in the author and in the public, by whom such exhibitions are relished and sought after.

" The existence of this feeling is certain. Its organ is

situated anterior to Hope, and a great development of the convolutions on which it depends enlarges and elevates the superior and lateral parts of the frontal bone. It is remarkably prominent in the heads of Socrates, of Torquato Tasso, Dr Price, Jung Stilling, Wesley, &c. My observations on it are extremely numerous, and I consider it as established.”

My own observations on this organ are the following.—I have met with persons excessively fond of news, which, if extravagant, were the more acceptable; prone to the expression of surprise and astonishment in ordinary discourse; deeply affected by tales of wonder; delighting in the Arabian Nights’ Entertainments, and the mysterious incidents abounding in the Waverley Novels; and in them I have uniformly found the part of the brain in question largely developed. When the organ predominates, there is a peculiar look of wonder, and an unconscious turning up of the exterior portions of the eye-lashes, expressive of surprise. In other persons, I have found the part of the brain in question small, and in them it was accompanied with a staid soberness of feeling, diametrically opposite to the manifestations above described. Such individuals were annoyed by every thing new or strange; they scarcely felt or expressed surprise, and had no taste for narratives leaving the beaten track of probability or reality, and soaring into the regions of supernatural fiction. On analyzing these manifestations, they all appear to be referrible to the sentiment of Wonder, an emotion which is quite distinguishable from those hitherto enumerated.

It appears to me that the love of the new is the primitive function of this faculty, and that surprise and wonder are the pleasurable emotions which attend its activity, when excited by the presence of unknown objects. The whole of this sublunary creation is one vast scene of destruction and renovation. Destructiveness places man in harmony with the first series of these changes, and the faculty now under

consideration with the second. Mr Bryant has well expressed this idea in "The Forest Hymn :"

" My heart is awed within me, when I think
Of the great miracle that still goes on
In silence round me—the perpetual work
Of thy creation, finished, yet renewed
For ever. Written on thy works I read
The lesson of thy own eternity.
Lo ! all grow old and die—but see again,
How on the faltering footsteps of decay
Youth presses—ever gay and beautiful youth,
In all its beautiful forms. These lofty trees
Wave not less proudly that their ancestors
Moulder beneath them."¹

Philosophers have long been puzzled to account for the circumstance, that a particular form of furniture or dress is pleasing, and is regarded as even beautiful, when first introduced, but that it appears ridiculous and antiquated after it has been superseded by a newer fashion. Probably one cause of this feeling may be found in the faculty now under consideration ; and the agreeable impressions made on it by new objects, may be one source of the gratification which a change of fashion affords. Love of Approbation unquestionably prompts multitudes to *follow* the fashion, without much relish for novelty itself ; but some individuals must take the lead, and there must be some principle in the mind to be gratified by mere change, which excites them to do so ; and Wonder may contribute to this effect. Indeed, as every faculty has a useful and legitimate sphere of action, I am disposed to infer, that the legitimate tendency of this sentiment is to inspire the mind with a longing after novelty

¹ In travelling through the untouched forests in America, I was struck with the similarity of their state to that of human society. The number of very large old trees is small, that of trees of middle age and size is great, and that of saplings and infant shoots very considerable. To the eye the forest presents always the same aspect, yet the individual trees are constantly perishing, and their places are supplied by the germination of the seeds which are shed by those in full vigour.

in every thing, and that its proper effect is to stimulate to invention and improvement. Fashion is not a real element of beauty in external objects; and to persons who possess a good endowment of Form and Ideality, intrinsic elegance is much more pleasing and permanently agreeable, than forms of less merit, recommended merely by being new. Hence there is a beauty which never palls, and there are objects over which fashion exercises no control. A Chinese teapot may be rendered agreeable by being fashionable, but will look ugly when the mode changes; while a vase of exquisite form will please in all countries and in all ages. The teapot I conceive to owe its attraction to the impression which its novelty makes on the faculty of Wonder: but when this has ceased, it is judged of by its proper qualities, and disliked on account of its inherent inelegant proportions; while the vase, by gratifying the faculties which take cognizance of intrinsic beauty, is always an agreeable object. This view is strengthened by the fact, that the greatest votaries of fashion have frequently execrably bad taste; a circumstance perfectly accordant with the supposition, that the mere love of novelty is the chief element in this disposition of mind.¹

The French in general possess a considerable development of the organs of Ideality, Wonder, and Love of Approbation; and they have long been celebrated as leaders of fashion. Their ordinary discourse, also, is replete with terms of admiration and approbation, which to Englishmen appear excessive. Every object is *superbe*, *magnifique*; and the terms *bon*, *beau*, *excellent*, express such faint praise as almost to imply disapprobation.

Sir John Ross, R.N., mentioned to me that young men, born and bred up in inland situations, who enter the Navy voluntarily, generally possess a large development of this

¹ Concentrativeness has been supposed to act as the antagonist of Wonder, in giving the love of sameness of object and pursuit. See *Phren. Journ.*, ix. 619.

organ, the gratification of which, he inferred, incites them to choose the sea as a profession.

According to this view, Wonder may aid genius, by prompting to novelty in all the conceptions of the mind.¹ Kepler, Napier, Newton, and Davy, all of whom were fond of diving into abstruse and unexplored regions of science, were inclined to superstition. Dr Samuel Johnson is strongly suspected of having believed in ghosts, a trait which indicates an excessive endowment of this faculty;² and his style is full of new words and unusual forms of expression, to which he was probably led by the same feeling. Dr Chalmers also shews a strong tendency to coin new vocables, and occasionally to give strange turns to his discourse; which seem to originate from Wonder acting with Comparison, as his brilliancy and elevation spring chiefly from Ideality. Mr Tennant, the author of *Anster Fair*, and Mr Hazlitt, shew some degree of the same disposition in their writings; and I have observed the organ full in the heads of both. The faculty prompts, as Dr Spurzheim remarks, to the use of machinery in poetry, and to the introduction of supernatural agency. In the portraits of Shakespeare and the busts of Sir Walter Scott, it is large; moderate in the head of Rammohun Roy. The feeling was strong in Robert Burns, and the cast of his skull indicates a large development of the organ.³

The following lines of the poet Akenside, finely delineate the manifestations of the sentiment of Wonder:

“ Witness the sprightly joy, when aught unknown
Strikes the quick sense, and wakes each active power
To brisker measures. Witness the neglect

¹ Professor Broussais remarks, that, “ in determined and exclusive homœopathists, and in animal magnetisers who occupy themselves with nothing but magnetism, Phrenologists have observed a large development of the organ of Wonder. In stating this,” says he, “ I am only the historian of facts.”—*Cours de Phrenologie*, p. 399.

² Respecting the sources of credulity, see *Phren. Journ.*, ix. 642.

³ See *Phren. Journ.*, ix. 69, note.

Of all familiar prospects, though beheld
 With transports once ; the fond attentive gaze
 Of young astonishment ; the sober zeal
 Of age, commenting on prodigious things.
 For such the bounteous providence of Heaven,
 In every breast implanting this desire
 Of objects new and strange, to urge us on
 With unremitted labour to pursue
 Those sacred stores, that wait the ripening soul
 In Truth's exhaustless bosom. What need words
 To paint its power ? For this the daring youth
 Breaks from his weeping mother's anxious arms,
 In foreign climes to rove ; the pensive sage,
 Heedless of sleep, or midnight's harmful damp,
 Hangs o'er the sickly taper ; and, untired,
 The virgin follows, with enchanted step,
 The mazes of some wild and wondrous tale
 From morn to eve. Hence, finally, by night,
 The village matron, round the blazing hearth,
 Suspends the infant audience with her tales,
 Breathing astonishment ! of witching rhymes,
 And evil spirits ; of the death-bed call
 Of him who robbed the widow, and devoured
 The orphan's portion ; of unquiet souls
 Risen from the grave to ease the heavy guilt
 Of deeds in life concealed ; of shapes that walk
 At dead of night, and clank their chains, and wave
 The torch of hell around the murderer's bed.
 At every solemn pause the crowd recoil,
 Gazing each other speechless, and congealed
 With shivering sighs ; till, eager for the event,
 Around the beldame all erect they hang,
 Each trembling heart with grateful terrors quelled."¹

Dr Spurzheim concludes his account of this faculty with the following remarks. "The preceding facts," says he, "determined me formerly to designate this feeling by the name of Supernaturality ; and it is certain that it is *principally manifested by a belief in miraculous and supernatural circumstances*, in the foundation of religion by supernatural means, and in its dogmatical points. As, however, the feel-

¹ *Pleasures of Imagination*, B. I. v. 232-270.

ing may be applied both to natural and supernatural events, and in every case fills the mind with amazement and surprise, I do not hesitate to change the name of Supernaturality into that of *Marvellousness*. This name I prefer to that of *Wonder*, adopted by Mr Combe, because, according to Dr Johnson's Dictionary, *wonder* is applicable only to surprise excited by natural objects, whilst *marvellousness* embraces both kinds of astonishment caused by natural and supernatural circumstances."

When Dr Spurzheim observes, in the foregoing passage, that this faculty is "*principally* manifested by a belief in miraculous and supernatural circumstances," I do not understand him to mean that this belief is its *legitimate function*. The period when Divine Power manifested itself by extraordinary means was limited, and is long since past ; and philosophy cannot acknowledge any object or event that occurs in the present day as miraculous or supernatural : a special faculty, therefore, for belief in such objects appears inadmissible. The fact, however, mentioned by Dr Spurzheim, that persons in whom this organ is large have a natural disposition to believe in the wonderful and miraculous is certain. Some individuals, so endowed, have informed me, that when any marvellous circumstance is communicated to them, the tendency of their minds is to believe it *without examination* ; and that an effort of philosophy is necessary to *resist* the belief, instead of evidence being requisite to produce it. This disposition appears to me to arise from too great energy in this faculty, not directed by reflection ; but it is not inconsistent with the idea, that the primitive sentiment is that of Wonder. Every propensity and sentiment desires objects suited to afford it gratification : Acquisitiveness longs for wealth, Love of Approbation for praise ; and, in like manner, Wonder will ardently desire the marvellous. Individuals, therefore, in whom the organ is large, will delight in extraordinary narratives, and the pleasure felt in them will render the intellect little prone

to enter on a severe scrutiny of their truth : hence the tendency to believe in such communications is easily accounted for. Still, however, this longing for the marvellous appears to be an abuse of the sentiment. Philosophy does not recognise the “supernatural,” while it admits wonder at new and extraordinary circumstances as a legitimate state of mind. With the greatest deference to Dr Spurzheim, therefore, I continue to regard Wonder as the more correct name ; and in this analysis I am supported by the authority of the metaphysicians.

Wonder and Veneration acting together produce adoration ; Wonder and Ideality give rise to admiration.

The organ, in a state of exaltation, is the great source of fanaticism in religion. When largely developed, it is liable to energetic activity, from its mere size ; and the impressions which it then excites are mistaken by persons ignorant of its nature for direct communications from heaven, and reason is contemned. It is then also liable to be vividly called into action by external communications of a marvellous and fanatical character ; and hence the wildest dogmatist pretending to superior illumination, finds no difficulty in drawing after him a crowd of devoted admirers. I examined the head of the late Reverend Edward Irvine, before he was established as a preacher, and when his peculiarities were unknown ; and observed that the organs of Wonder and Self-Esteem were very large. They gave a tinge to his whole public life. The organs of Benevolence, Conscientiousness, Veneration, and Intellect, were also amply developed, so that he possessed the natural elements of the Christian character in great strength, but their direction was rendered unprofitable by the predominance of Wonder and Self-Esteem.

The organ of Wonder is large in the skulls of the ancient Greeks, and small in the Esquimaux.

ANCIENT GREEK.

The sentiment is much weaker among the latter than in savages generally.¹ When the organ is small, the skull slopes rapidly on each side, but when large, the vertex is broad, as seen in the annexed cut.



Dr Adam Smith, in his *History of Astronomy*,² calls Wonder a sentiment, and attempts to distinguish it from surprise. “We wonder,” he says, “at all extreme and uncommon objects ; at all the rarer phenomena of nature ; at meteors, comets, eclipses ; at singular plants and animals ; and at every thing, in short, with which we have before been either little or not at all acquainted ; and we still wonder, though forewarned of what we are to see.” “We are surprised,” he continues, “at those things which we have seen *often*, but which we least of all expected to meet with in the place where we find them ; we are surprised at the sudden appearance of a friend, whom we have seen a thousand times, but whom we did not imagine we were to see then.”

Lord Kames observes, that “of all the circumstances that raise emotions, not excepting beauty nor even greatness, novelty hath the most powerful influence. A new object produceth instantaneously an emotion termed *wonder*, which totally occupies the mind, and for a time excludes all other objects. Conversation among the vulgar never is more interesting than when it turns upon strange objects and extraordinary events. Men tear themselves from their native country in search of things rare and new ; and novelty converts into a pleasure the fatigues and even perils of travelling. To what cause shall we ascribe these singular appearances ? To curiosity undoubtedly, a principle implanted in human nature for a purpose extremely beneficial, that of acquiring knowledge ; and the emotion of *wonder*, raised by

¹ See *Phrenological Journal*, viii. 433.

² Page 2.

new and strange objects, inflames our curiosity to know more of them.”¹

Dr Thomas Brown² also admits Wonder as a primitive emotion, and contends with success, that surprise and wonder are intrinsically the same feeling, only excited by different objects or occurrences. We wonder at the comet from its novelty; we are surprised to meet a friend in Edinburgh, whom we believed to be in London: but it is the novel and unexpected *situation* in which we meet him, that causes the surprise, and not his appearance itself.

Dr Brown³ somewhat strangely observes, that “it seems most probable that the feeling of *wonder*, which now attends any striking event that is unexpected by us, would *not* arise in the infant mind, on the occurrence of events, all of which might be regarded as equally new to it; since *wonder* implies, not the mere feeling of *novelty*, but the knowledge of some *other circumstances* which were expected to occur, and is, therefore, I conceive, inconsistent with *absolute ignorance*.” The facts which we daily observe prove the very opposite of this doctrine. The organ of Wonder existing, every *new* object excites it, and calls forth the emotion; and hence, the greater the ignorance, the more frequent and more intense is the astonishment, for then almost every occurrence is novel.

Dr Brown⁴ observes more justly, that “we may be struck at the same time with the beauty or grandeur of a new object, and our mixed emotion of the novelty and beauty combined, will obtain the name of *admiration*.”

Mr Stewart and Dr Reid do not treat of this emotion. Their writings (especially those of Dr Reid) indicate very little of the quality existing in their own minds, and this probably was the cause of their omitting to enrol it among the primitive mental emotions.

The subject of visions is still attended with considerable

¹ *Elements of Criticism*, vol. i. p. 211.

³ Vol. iii. p. 55.

² Vol. iii. p. 59.

⁴ Vol. iii. p. 57.

difficulty. I have met with cases similar to those recorded by Drs Gall and Spurzheim. In the London Bedlam, I examined the head of a patient whose insanity consisted in seeing phantoms, and being led to act as if they were realities, although, as he himself stated, he was convinced by his understanding, at the very time, that they were mere illusions; but could not regulate his conduct by this conviction. In him the organ of Form was well developed, and that of Wonder was decidedly large. When asked whether he experienced any sensation in the head when afflicted with visions, he pointed to the spot on each side where the organ of Wonder is situated, and said that he felt an uneasy sensation there.

In the Richmond Lunatic Asylum at Dublin, I saw several patients in whom this organ predominated, and whose insanity consisted in believing themselves to be supernatural beings, or inspired.¹ In the Lunatic Asylum at Newcastle, I saw a Miss H., in whom this organ was exceedingly large in the left hemisphere, and her insanity consisted in believing herself under the influence of spiritual beings.²

An interesting case of derangement of the organ of Wonder is reported in *The Phrenological Journal*, vol. v. p. 585. The patient, Dr Anderson of Cupar-Fife, devoted much attention to the study of animal magnetism, and at length imagined himself under its influence—an opinion which gradually acquired an ascendancy over him, till it became so strong as to haunt him continually. His nights became disturbed, and when he did sleep he was tormented by oppressive dreams and other strange phantasms. His notion of animal magnetism was, that certain individuals who had an antipathy to him, could wield over him at will an influence of so malignant a nature as to deprive him of every kind of enjoyment. “He invested these *invisibles*, as he called them, with vast power. No place was proof against

¹ See *Phrenological Journal*, vol. vi. p. 84.

² See a paper on Demonology and Witchcraft, by Mr Simpson, *Phren. Journ.* vi. 504; Dr W. A. F. Browne's *Observations on Fanaticism*, vol. ix. pp. 289, 522, 577; x. 45; and case mentioned in vol. v. p. 84.

their malignancy, nor could distance restrain it. He went to Paris in the year 1822, with the view of escaping from it, but he found its influence there as great as at home. He frequently during the night could hear his enemies planning schemes for his annoyance. In his imagination they had recourse to every kind of torment which the most wicked and inquisitorial minds could invent, and were inexorable and persevering in their attacks....Several times he made application to the local authorities to control their malignity, and even took bond from some of his acquaintances that they should cease to disturb him. On all other subjects saving animal magnetism his judgment was sound; and indeed in reasoning he evinced much acuteness; a stranger, in short, when the peculiar subject was not agitated, could not detect any thing unusual about him." On opening the head after death, the skull-cap was found very thick and hard, affording evidence of long-continued disease; and over the organ of Wonder was "an inflammatory deposit, apparently of old standing, under the arachnoid coat, with thickening of the membrane itself, and adhesion to the parts beneath for about the space of an inch and a-half in length, and one in breadth." Dr Scott, who reports the case, does not specify the organ of Wonder as the exact seat of the affection; because, from not being acquainted with Phrenology, he did not know the situation of that organ. But Dr A. Combe received a letter (quoted in *The Phrenological Journal*) from a gentleman who was present at the dissection, and who had studied the science, stating explicitly, that the deposit had its seat precisely at the organ of Wonder; and adding, that the pain complained of during eight years was "confined to the forehead and coronal surface, but *principally* to the latter region," and that it was Dr Anderson's invariable practice to apply cold water to these parts every night, to abate the annoying heat which he felt in them.

About twelve years before the death of Mr N. a gentleman whom I knew personally, he began to see spectral illusions, which continued to appear at intervals till he died.

They were human figures of all sizes, and in the costumes of different nations. Sometimes they were small and beautiful miniatures. He was generally aware that these were illusions. I was present at the *post mortem* examination of his brain, and observed that, on the left side, the skull was thickened, by descent of the inner table, over the organs of Imitation and Wonder. There were also strong marks of chronic inflammatory action in the falx and in the *dura mater*, covering Firmness, Benevolence, Veneration, Imitation, and Wonder, on both sides. See *Phren. Journ.*, vol. x. p. 355.

In the Edinburgh Pauper Lunatic Asylum, Dr Spurzheim saw a woman who was visited by ghosts and spectres. In her the organ of Wonder was remarkably developed. He asked her if she ever complained of headach. She answered that she did; and being requested to put her hand on that part of the head where she felt the pain, she did so on the very spot where the organ is situated.

Several years ago I saw a person in the west of Scotland, who was liable to spectral illusions. He was then thirty-eight years of age, in sound health, remarkably intelligent, and by no means liable to extravagance either in his sentiments or ideas. He mentioned that there was almost constantly present to his mind the appearance of a carpet in motion, and spotted with figures. On visiting Glasgow, he saw a large log of wood, mounted on two axles and four wheels, passing along the street; and on returning home, the apparition of the timber and its vehicle, with the horses, driver, &c. stood before him in the dimensions and hues of actual existence. On another occasion, he saw a funeral pass by the end of Queen Street, Glasgow; and for some time afterwards, whenever he shut his eyes or was in darkness, the procession moved before his mind, as distinctly as it had previously done before his eyes. These are merely a few instances, out of many, of beings and objects which he had seen, reappearing to his fancy. He was not conscious of

the appearance of the phantom of any object which he had not previously seen ; and he was rarely, or almost never, troubled with these visions, when actual existences were before his eyes in broad light : but at all times they appeared to a greater or less extent when his eyes were shut, or darkness prevailed. His head was in general well formed ; the different organs, with the exception of the organ of *Wonder* (which was decidedly large, and which seems to have been the origin of this affection,) were fairly proportioned ; the knowing organs preponderated a little over the reflective.

He mentioned, that this peculiarity had descended to his son. On one occasion, the boy had made up to what he conceived to be a beggar-man, and endeavoured to speak to him. The figure retired ; and the boy followed, till it disappeared at a high wall, seeming to glide into it. The boy ran up to the wall, and groped it with his hands, when he discovered that the beggar was a spectral illusion. I had not an opportunity of examining the head of the son ; but the father stated, that, in other respects, there was no peculiarity about his mental constitution.

This tendency of mind, occurring in remote and secluded districts of the Highlands, has probably given rise to the *second sight*. The individual above described, if placed in a situation where his chieftain, his clansmen, their dogs and their flocks, were almost the only animated objects presented to his eyes, would have been visited with frequent spectral appearances of them. If, after the occurrence of such apparitions, the chief had been killed, or the clansmen drowned, or the flock buried in the snow, the coincidence would have been remarked, and the event would have been regarded as having been predicted by an exercise of the second sight. Where nothing followed the spectres, nothing would be said of their appearance, just as happens in the case of dreams. A correspondent of *The Phrenological Journal*,¹ gives an account of a Highland gentleman, who believed that an ap-

¹ Vol. ii. p. 362.

partition of the second sight had occurred to himself ; and he states, that, in his head, the organ of Wonder is large.

At the same time, it is difficult to comprehend, how an exalted state of this organ should produce these effects, unless we suppose it to excite the organs of Form, Colouring, Size, and Individuality, so as to prompt them to conjure up illusions of forms and colours, fitted for the gratification of Wonder ; just as the involuntary activity of Cautiousness, during sleep, excites the intellectual organs to conceive objects of terror, producing thereby frightful dreams. This theory is rendered probable by the fact, that morbid excitement of the knowing organs produces spectral illusions, independently of an affection of the organ of Wonder. Mr Simpson communicated an admirable paper on this subject to *The Phrenological Journal*,¹ to which I shall have occasion afterwards to refer.

A gentleman in Boston, Massachusetts, in whom Ideality, Wonder, and Hope, are large, told me that he delights to shut out the world and all ordinary things from his mind, and, in his imaginings, to realize the perfect, the spiritual, the eternal. He communes mentally with superior existences, and experiences their influence. The future and spiritual seem to him to become real. He does not see visions, or believe in the actual presence of supernatural beings, and is aware that all minds do not enjoy the same inward impressions ; but he infers that a state of being must exist to which these impressions are related.

Dr Otto, in a communication " On the Effects of Medicines and Different Kinds of Food, &c., on the Mind," printed in *The Phren. Journal*, vol. xv., states, on page 37, that " ammonia and its preparations, morphia, castoreum, wine, ether, and the ethereal oils, produce a greater activity of Ideality, Hope, and the reflective intellectual faculties ; but the empyreumatic oils occasion a greater activity of Cautiousness, Wonder, and the perceptive faculties—for they

¹ Vol. ii. p. 290.

induce melancholy feelings, and mostly visions, particularly of the gloomy kind.”

The natural language of this faculty is nodding the head obliquely upwards, in the direction of the organ. I have observed a person telling another, in whom this organ predominated, a wonderful story, and at the end of each branch of the narration the listener nodded his head upwards, two or three times, and ejaculated an expression of surprise. An individual in whom the organ is small will not naturally do this.¹

The general function of the organ is regarded as ascertained ; but its metaphysical analysis is still incomplete.

19.—IDEALITY.

This organ is situated nearly along the temporal ridge of the frontal bone. Dr Gall gives the following account of its discovery.

The first poet whose head arrested his attention by its form, was one of his friends who frequently composed *ex-*

¹ There is a beautiful head of Christ in the “Last Supper,” in the Dresden Gallery, No. 494, by Carlo Dolce. It admirably represents the natural language of Benevolence, meek submission to agonizing suffering, and high intellectual power. The eyes are raised upwards and towards the side, in the direction of the organ of Wonder ; and the soul is seen, by the expression of the countenance, to be holding converse in prayer with supernatural powers. The wine-cup and the bread stand before him on the table. One great excellence of the picture is this abstraction of the mind from earth, and the distinct expression of its being in the act of communicating with spirits above. An artist was copying this head, but, apparently from not understanding the natural language of the countenance, he had given the eyes a turn, not upwards and towards the side, as in the original (the natural language of Wonder), but directly upwards (the natural language of Veneration) ; and by this change he removed every expression of supernatural intercourse, and rendered the picture indicative of simple devotion ; in short, he struck out the grandest feature in the work, and that by which the accurate observation and profound analytic power of the painter are most conspicuously displayed.

tempore verses when least expected to do so ; and who had thereby acquired a sort of reputation, although in other respects a very ordinary person. His forehead, immediately above the nose, rose perpendicularly, then retreated, and extended itself a good deal laterally, as if a part had been added on each side. He recollected having seen the same form in the bust of Ovid. In other poets, he did not find, as a constant occurrence, the forehead first perpendicular and then retreating, so that he regarded this shape as accidental ; but in all of them he observed the prominences in the anterior lateral parts of the head, above the temples. He then began to look upon these prominences as the distinctive marks of a natural talent for poetry ; but still he spoke to his hearers on the subject with a degree of doubt, especially as, at this period, he was not convinced that a talent for poetry depended on a primitive mental faculty. He waited, therefore, before deciding definitively, till he had made a greater number of observations.

A short time afterwards, he got the head of the poet Alxinger, in which this part of the brain, and also the organ of Adhesiveness, were very much developed, while the other portions were so only in a small degree. A little after this, the poet Junger died, and Gall found the prominences also in his head. He found the same parts still larger in the poet Blumauer, with a large organ of Wit. At this time, Wilhelmine Maisch acquired reputation at Vienna by her poetry ; and the same enlargement above the temples was found in her head. Dr Gall observed the same organization in Madame Laroche, at Offenbach, near Frankfort ; in Angélique Kaufmann ; in Sophia Clementina of Merklen ; in Klopstock ; in Schiller, of whom he had a mask ; and also in Gesner of Zurich. In Berlin he continued to speak of this organ still with considerable reserve, when M. Nicolai invited him and Dr Spurzheim to see a collection of about thirty busts of poets in his possession. They found, in every one of them, the part in question projecting more or less considerably, according as the talent was manifested in

a higher or lower degree in each poet. From that moment he taught boldly, that the talent for poetry depends on a primitive faculty, and that it is connected with this part of the brain as its special organ.

In Paris, Dr Gall moulded the head of Legouv  after his death, and found this organ large. He and Dr Spurzheim opened the head of the late Delille, and pointed out to several physicians who were present, the full development of the convolutions placed under the external prominences at this part; these convolutions projected beyond all the others. Dr Gall preserved a cast of one of the hemispheres of the brain; so that this statement may still be verified. In a pretty numerous assemblage, Dr Gall was asked what he thought of a little man, who sat at a considerable distance from him? As it was rather dark, he said, that, in truth, he could not see him very distinctly, but that he nevertheless observed the organ of poetry to be greatly developed. He was then informed that this was the famous poet Fran ois, generally named *Cordonnier*, from his having been bred a shoemaker.¹ "If we pass in review," says Dr Gall, "the portraits and busts of the poets of all ages, we shall find this configuration of head common to them all; as in Pindar, Euripides, Sophocles, Heraclides, Plautus, Terence, Virgil, Tibullus, Ovid, Horace, Juvenal, Boccaccio, Ariosto, Aretin, Tasso, Milton, Boileau, J. B. Rousseau, Pope, Young, Grosset, Voltaire, Gesner, Klopstock, Wieland," &c. Dr Bailly, in a letter, dated Rome, 30th May 1822, addressed to Dr Brayer, says: "You may tell Dr Gall that I have a mask of Tasso, taken from nature, and that, although part of the organ of poetry be cut off, nevertheless the lateral breadth of the cranium in this direction is enormous." Mr Lawrence Macdonald, sculptor, who visited Tasso's tomb at the Monastery of St Onofrio, in Rome, has favoured me

¹ A cast of the head of this individual is in the Phrenological Society's collection, Edinburgh, and in Mr Deville's at London. The organ in question is large. Some particulars respecting him will be found in *The Phrenological Journal*, vi. 495.

with the following particulars : “ In the library of the Monastery of St Onofrio, there is preserved, along with an original letter of the poet, a cast in wax of his head, evidently taken after death. The brain is very large in proportion to the face, and the head altogether is above the ordinary size. The knowing organs are very large, the reflecting large. The organs of the sentiments are full, those of the propensities large. The most striking characteristic, however, is the breadth at the region of Ideality, which is extremely large.”

The bust of Homer presents an extraordinary development at this part of the head. It is doubted whether it be authentic ; but be it real or ideal, the existence of the prominence is remarkable. If it be ideal, why was the artist led to give this particular form, which is the only one in accordance with nature ? If he modelled the head of the most distinguished poet of his day, as the best representative of Homer, the existence of this development is still a fact in favour of the organ.

We owe to Dr Spurzheim the correct analysis of this faculty, and the elegant and appropriate name by which it is designated. “ It is impossible,” says he, “ that poetry in general should be confined to one single organ ; and I therefore think that the name ‘ Organ of Poetry ’ (used by Dr Gall), does not indicate the essential faculty.”—“ In every kind of poetry, the sentiments are exalted, the expressions warm ; and there must be rapture, inspiration, what is commonly called imagination or fancy.”¹

This faculty produces the desire for exquisiteness, or perfection, and is delighted with what the French call “ *Le beau idéal*.” It gives *inspiration* to the poet. The knowing fa-

¹ Dr Vimont defends Gall’s view of the organ, and his name ‘ Organ of Poetry,’ and dissents from Dr Spurzheim’s ideas. He maintains also that there is a separate organ, which he calls “ *Sens du Beau dans les Arts*,” which, he says, Gall and Spurzheim have confounded with that of Constructiveness. It lies above Constructiveness, and is distinct from it. A detailed account of his views will be given after “ Ideality.”

culties perceive qualities as they exist in nature ; but this faculty desires, for its gratification, something more exquisitely perfect than the scenes of reality. It desires to elevate and endow with a splendid excellence every object presented to the mind. It stimulates the faculties which form ideas, to create scenes, in which every object is invested with the perfection which it delights to contemplate. It is particularly valuable to man as a progressive being. It inspires him with a ceaseless love of improvement, and prompts him to form and realize splendid conceptions. When predominant, it gives a manner of feeling and of thinking, befitting the regions of fancy, rather than the abodes of men. Hence those only on whom it is largely bestowed can possibly be poets ; and hence the proverb, "*Poëta nascitur, non fit.*"

Those who experience a difficulty in conceiving what effect the faculty produces, may compare the character of Blount with that of Raleigh in *Kenilworth*: "But what manner of animal art thou thyself, Raleigh," said Tressilian, "that thou holdest us all so lightly?"—"Who I?" replied Raleigh, "An eagle am I, that never will think of dull earth, while there is a heaven to soar in, and a sun to gaze upon."—Or they may compare the poetry of Swift with that of Milton ; the metaphysical writings of Dr Reid with those of Dr Thomas Brown ; the poetry of Crabbe with that of Byron ; or Dean Swift's prose with that of Dr Chalmers.

It was this faculty, "by whose aid" Shakspeare imagined the characters of *Ariel* and *Prospero*. *Prospero's* concluding speech in *The Tempest*, is a beautiful specimen of the style of writing which it produces.

" I have bedimmed
The noon-tide sun, call'd forth the mutinous winds
And 'twixt the green sea and the azur'd vault
Set roaring war ; to the dread rattling thunder
Have I giv'n fire, and rifted Jove's stout oak
With his own bolt ; the strong based promontory
Have I made shake, and by the spurs pluckt up
The pine and cedar : graves at my command
Have wak'd their sleepers ; op'd and let them forth
By my so potent art. But this rough magic

I here abjure : and when I have required
 Some heavenly music, which even now I do,
 To work mine end upon their senses, that
 This airy charm is for ; I'll break my staff ;
 Bury it certain fathoms in the earth ;
 And, deeper than did ever plummet sound,
 I'll drown my book."—*Act v. Sc. 6.*

Individuals differ exceedingly with respect to the degree in which they possess this organ. According to the energy and activity of it, poetry is prized or relished. I have met with persons who declared that they could perceive no excellence in poetical compositions, and could derive no gratifications from them ; and yet they were endowed with every degree of understanding and penetration, according as they possessed the other faculties strongly or weakly, and were not uniformly deficient either in moral sentiment or in judgment, in proportion to their want of poetic fire. An amusing case of its deficiency is recorded in *The Phrenological Journal*, viii. 411.

This faculty gives a particular tinge to all the other faculties. It makes them, in every thing, aspire to exquisiteness. A cast of the human head is a plain transcript of nature ; a bust is nature, elevated and adorned by the Ideality of a Canova, a Chantrey, or a Macdonald. Add a large development of this organ to the propensities, sentiments, and reflecting powers, and it will expand the field of their interest ; carry them outwards, and forwards, and upwards ; and cause them to delight in schemes of improvement. In common life, we easily distinguish those who have, from those who have not, a considerable endowment of it. The former speak, in general, in an elevated strain of language, and, when animated, shew a splendour of eloquence and of poetical feeling, which the latter are never able to command. It gives to conversation a fascinating sprightliness and buoyancy, the very opposite of the qualities expressed by the epithets *dryness* and *dulness*.

Some sects in religion, and, among others, that most re-

spectable body, The Society of Friends, declaim against ornament in dress, furniture, and other modes of life ; they renounce these as vanity, while they hold up the solid and the useful as alone worthy of rational and immortal beings. This is the natural feeling of persons in whom Benevolence, Conscientiousness, and Veneration are large, and Ideality very deficient ; and perhaps the original propounders of these notions possessed such a combination : but this is not the language of universal human nature, nor of physical nature either. Where Ideality exists to a considerable extent, there is an innate desire for the beautiful, and an instinctive love and admiration of it ; and so far from the arrangements of the Creator in the material world being in opposition to it, he has scattered, in the most profuse abundance, objects calculated, in the highest degree, to excite and gratify the feeling. What are the flowers that deck the fields, combining perfect elegance of form with the most exquisite loveliness, delicacy, and harmony of tint, but objects addressed purely to Ideality, and the subordinate faculties of Colouring and Form ? They enjoy not their beauty themselves, and afford neither food, raiment, nor protection to the corporeal frame of man ; and on this account, some persons have been led to view them as merely nature's vanities and shows, possessed of neither dignity nor utility. But the individual in whom Ideality is large, will in rapture say, that these objects, and the lofty mountain, the deep glen, the roaring cataract, and all the varied loveliness of hill and dale, fountain and fresh shade, afford to him the banquet of the mind ; that they pour into his soul a stream of pleasure so intense, and yet so pure and elevated, that, in comparison with it, all the gratifications of sense and animal propensity sink into insipidity and insignificance. In short, to the phrenologist, the existence of this faculty in the mind, and of external objects fitted to gratify it, is one among numberless instances of the boundless beneficence of the Creator towards man ; for it is a faculty purely of enjoyment—one whose sole use is to refine, and exalt, and extend the range of our other powers, to confer on us

higher susceptibilities of improvement, and a keener relish for all that is great and glorious in the universe.

In conformity with this view, the organ is found to be deficient in barbarous and rude tribes of mankind, and large in the nations which have made the highest advances in civilization. It is small in atrocious criminals; and I have observed, that persons born in the lower walks of life, whose talents and industry have raised them to wealth, are susceptible of refinement in their manners, habits, and sentiments, in proportion to the development of this organ, and that of Love of Approbation. When it is small, their primitive condition is apt to stick to them through life; when large, they make rapid advances, and improve by every opportunity of intercourse with their superiors.

This faculty, acting in combination with the intellectual powers and Constructiveness, gives a taste for painting, sculpture, architecture, and all the ornamental arts.

Ideality is one element in correct taste. Great Love of Approbation may give a passion for finery; but if Ideality be deficient, intended ornaments, through want of skill in their selection and arrangement, may produce an unpleasing effect. If, on the other hand, we enter a house in which exquisite taste reigns in every object; in which each particular ornament is made subservient to the general effect, and the impression from the whole is that of a refined and pleasing elegance; we may be certain of finding Love of Approbation combined with large Ideality in one or both of the possessors. Indeed, where the degree of wealth is equal in different persons, we might almost guess at the extent of these two faculties, by the different degrees of splendour in their domestic establishment; and in cases where homeliness is the prevailing feature, while affluence is enjoyed, we may predicate a very moderate development of Ideality. I have frequently observed, in persons who, from an humble origin have become rich by commerce, an intense passion for domestic splendour; and, without a single exception, I have remarked Love of Approbation and Ideality largely developed in their heads.

The figures represent the organ large in Chaucer, and deficient in Locke.

CHAUCER.



LOCKE.



The relish for poetry and the fine arts is generally in proportion to the development of Ideality. Temperament, however, modifies the effects of this as well as of all the other organs. The nervous temperament, being most favourable to refinement and susceptibility, greatly enhances the practical effects of this faculty.

The tone of voice suitable to tragedy, is elevated and majestic, and Ideality is essential to enable the performer to feel and express the greatness of the personages whom he represents.

In some individuals the front part of this organ is most developed, in others the back part; and from a few cases which I have observed, there is reason to believe that the latter is a separate organ. The back part is left without a number on the bust, and a mark of interrogation is inscribed on it, to denote that the function is a subject of inquiry. The back part touches Cautiousness; and it seems probable that excitement of this organ, in a moderate degree, is an ingredient in the emotion of the sublime. The roar of thunder, or of a cataract—the beetling cliff suspended high in air, and threatening to cause ruin by its fall—impress the mind with

feelings of terror ; and it is only such objects that produce the sentiment of sublimity. It would be interesting to take two individuals with equal Ideality, but the one possessed of much and the other of little Cautiousness, to the vale of Glencoe, the pass of Borrowdale, the cave of Staffa, or some other scene in which the elements of the sublime predominate, and to mark their different emotions. I suspect that the large Cautiousness would give the more profound and intense emotions of sublimity. Since the last edition of this work, containing the foregoing remarks, was printed, however, I have met with a gentleman in whom Veneration, Wonder, and this unascertained organ, were all large, Ideality was moderate, and Cautiousness deficient ; and he assured me that he had always been vividly alive to the sublime, and when a boy, had, at considerable peril, frequented scenes where it reigned paramount. It is difficult to determine to what extent his emotions of the sublime were referable to Wonder, and to what extent to the organ in question ; but his case seems to indicate that fear is not a necessary element in that emotion. This is the only example of that combination which I have seen, and one case is not sufficient to determine the point. An ingenious correspondent, in whom the organ is large, conjectures it to produce the "feeling for the past." His letter appeared in *The Phrenological Journal*, vol. x., p. 671. Mr Hytche (vol. xi. 284,) concurs in this opinion : but in page 412, several cases are stated in favour of the view, that the organ is connected with the sublime. See also vol. xii., p. 355.

Like all other faculties Ideality may be abused. When permitted to take the ascendancy over the other powers, and to seek its own gratification to the neglect of the serious duties of life,—or when cultivated to so great an excess as to produce a finical and sickly refinement,—it becomes a source of great evils. It appears to have reached this state of diseased excitement in Rousseau. "The impossibility of finding actual beings (worthy of himself), threw me," says he, "into the regions of fancy ; and seeing that no existing ob-

ject was worthy of my delirium, I nourished it in an ideal world, which my creative imagination soon peopled to my heart's desire. In my continual ecstasies, I drank in torrents of the most delicious sentiments which ever entered the heart of man. Forgetting altogether the human race, I made society for myself of perfect creatures, as celestial by their virtues as their beauties, and of sure, tender, and faithful friends, such as I have never seen here below. I took such delight in gliding along the air with the charming objects with which I surrounded myself, that I passed hours and days without noticing time ; and, losing the recollection of every thing, scarcely had I eaten a morsel, but I burned to escape," and return to this enchanted world. The theory of this condition of mind appears to be, that Rousseau invigorated and refined every faculty in his imaginary personages, till it reached the standard of excellence fitted to please his large Ideality, and then he luxuriated in contemplating the perfection which he had created.

The passion for dress, ornament, and finery, which in some individuals goes beyond all reasonable bounds, and usurps the place of the serious and respectable virtues, results from an abuse of Ideality, Wonder, and Love of Approbation, and is generally accompanied by a deficient development of the organs of Conscientiousness and Reflection.

In an hospital, Dr Gall found this organ considerably developed in a man who was insane ; and remarked to the physicians who accompanied him, that he observed the external sign which indicated a talent for poetry. The patient, in point of fact, possessed this talent ; for in his state of alienation, he continually composed verses, which sometimes were not deficient in point and vigour. He belonged to the lowest class, and had received no education. In the collection of M. Esquirol, Dr Gall saw a mask of an insane person, who also was habitually occupied in versifying ; and in it the organ in question is considerably larger than any of the others. Dr Willis mentions a patient of his, who, during his paroxysms of insanity, which were anxiously expected, was con-

scious of the most delightful and elevated emotions, and wrote poetry and prose with equal facility. This state of feeling always disappeared when the fit went off.

The sentiment of Ideality corresponds in some degree to that of "Taste," admitted by Mr Stewart; only he regards taste as one of the powers acquired "by habits of study or of business."

Mr Stewart has written an Essay on Beauty, in which he arrives at the conclusion, that this word does not denote one single and simple emotion, but that external objects are said to be beautiful in a variety of instances in which they excite agreeable feelings, although the kinds of emotion which they call forth are very different. Thus, it is correct speech to call a mathematical theorem beautiful, a rose beautiful, and a lovely woman beautiful; yet the qualities of these three objects, and the kinds of emotion which they excite, are so different, that they have no common property, except that of the feeling excited by all of them being agreeable.

Mr Stewart appears to be correct in this observation, and it is valuable, in so far as it directs our attention to the vagueness of the word *beauty*; but it throws no light on the theory of the beautiful itself. Phrenology, however, enables us to supply Mr Stewart's deficiency in this respect. Every faculty is gratified with contemplating the objects to which it is naturally related. A grand and solemn hymn pleases the faculty of Veneration, and is, on account of raising this delight, pronounced to be beautiful. A symmetrical figure gratifies the faculty of Form, and, on account of the pleasure it produces, is also termed beautiful. A closely logical discourse delights Causality and Comparison, and on this account is in like manner said to be beautiful. Hence, the inventors of language, little prone to nice and metaphysical distinctions, framed the word *beauty*, to express only the general emotion of pleasure, of a calm and refined nature, arising in the mind on contemplating outward objects of various kinds; and in this sense a person may be alive to beauty, who enjoys a very imperfect endowment of Ideality.

But the function of this faculty is to produce a peculiarly exquisite and intense emotion of pleasure, on surveying certain qualities in external objects ; and it surpasses so vastly in strength and sublimity the perceptions of beauty communicated by the other faculties, that it may itself be regarded as the fountain of this delightful emotion, and be styled the Faculty of the emotion of Beauty. When active from internal causes it desires beauty, splendour, grandeur, and perfection, for its gratification, and prompts the other faculties to seek out and produce objects invested with these qualities.

Dr Thomas Brown¹ treats of the sentiment of beauty as an original emotion of the mind ; and his doctrine might, with the change of names, almost be adopted by a phrenologist in speaking of Ideality. According to our doctrine, the knowing faculties perceive objects as they exist—such as a landscape, a statue, or a Grecian temple ; and the faculty of Ideality, excited by their features, glows with a delightful and elevated emotion ; and to the qualities in the external objects which kindle this lively sentiment of pleasure, we ascribe the attribute of beauty. Beauty, therefore, though appreciated in the first instance by the perceptive faculties, is enjoyed as a strong emotion, only when these act in conjunction with Ideality. If the intellect act alone, Ideality remaining quiescent, the feeling of beauty experienced will be less vivid. Hence, although many objects in external nature may appear, to a person deficient in Ideality, to be invested with certain pleasing attributes of form, proportion, and colouring, yet he will never thrill with that sublime emotion, or that ecstatic delight, which prompts the beholder to exclaim that the object contemplated is exquisitely beautiful. Dr Thomas Brown, in accordance with this doctrine, says—“ You are now in no danger of confounding that view of beauty, which regards it as an *emotion*, dependent on the existence of certain previous per-

¹ Vol. iii. p. 134--5.

ceptions or conceptions, which may induce *it*, but may also, by the operation of the common laws of suggestion, induce, at other times, in like manner, *other* states of mind, exclusive of the emotion,—with the very different doctrine, that regards beauty as the object of a peculiar internal *sense*, which might therefore, from the analogy conveyed in that name, be supposed to be as uniform in its feelings, as our other senses, on the presence of their particular objects, are uniform, or nearly uniform, in the intimations afforded by *them*. Such a *sense* of beauty,” says he, “as a fixed regular object, we assuredly have not; but it does not follow, that we are without such an original susceptibility of a mere emotion, that is not, like sensation, the direct and uniform effect of the presence of its objects, but may vary in the occasions on which it rises, like our other emotions; love, for example, or hate, or astonishment, which various circumstances may produce, or various other circumstances may prevent from arising.”

If Dr Brown had added to his theory the statement, that some individuals possess from nature a great susceptibility of experiencing the emotion of beauty, while others appear almost insensible to it (as is the case also with the emotions of love, hate, and astonishment, which he mentions),—and that this constitutional difference depends, *cæteris paribus*, on the size of a particular organ in the brain,—he would have rendered his explanation of the phenomenon nearly complete.

The question has been much agitated, What constitutes poetry? The answer afforded by Phrenology is, that the elements of poetry are all the feelings and perceptions of the human faculties, embued with the quality of Ideality. Ideality itself is a primitive emotion, which may be described but cannot be defined. It harmonizes, and may therefore blend, with every emotion and conception, the character of which is not in opposition to its own. As it is the feeling of the beautiful, it naturally combines with the highest and

best manifestations of the other faculties, and stands opposed to all imperfection.

By communicating the desire of perfection, Ideality erects a high standard in the mind, by which to compare actual attainments. Viewed in this light, it appears to be an important element in the mental constitution of man, as a progressive being. To the lower animals, which cannot pass beyond their primitive condition, a desire of arriving at a more perfect state would have been a source of pain ; whereas to man, with an undefined scope of improvement before him, no feeling could be more useful and delightful. When regulated by reason, the perfection which it aims at is not that which belongs to God or to superior beings ; but that which results from the best action of all the faculties of man as a being of limited power.

Lord Jeffrey's article on Beauty, in the *Supplement to the Encyclopædia Britannica*,¹ appears to me to proceed on a misconception of the theory of Dr Brown, and to be unsound and inconsistent with human nature. His Lordship conceives that all "emotions of beauty and sublimity must have for their objects the sufferings or enjoyments of sentient being ;" and he rejects, "*as intrinsically absurd and incredible*, the supposition, that material objects which obviously do neither hurt nor delight the body, should yet excite, by their mere physical qualities, the very powerful emotions which are sometimes excited by the spectacle of beauty." Accordingly he lays it down as doctrine, that the pleasure we enjoy in contemplating a Highland landscape, arises from associating, with the wilds which we gaze upon, ideas of the rude sons of the mist and the mountain who inhabit them ; from our conjuring up, while we look upon their scenes, recollections of their loves, their hates, their strifes, their shouts of victory, and their lamentations over the dead ; and from our ascribing the delight occasioned by these emotions to the external objects themselves, as their cause, and conceiving them to possess the quality of beauty, when in truth they

¹ Page 181.

are only the occasions which excite these other emotions in our minds. In the bust of Lord Jeffrey, Ideality is not the most prominent feature ; but the organs of Eventuality, Comparison, and Causality are large : and this combination would produce precisely such a state of mind, on surveying a mountain-pass, as that which he here describes. Ideality not being very energetic, the emotions of sublimity and grandeur would be only secondary in power ; whereas Eventuality, Comparison, and Causality, being more vigorous, and in ceaseless activity, would suggest a thousand incidents, and their *relations*, connected with the scene. This state of mind, however, would be peculiar to persons possessing this combination.

To put this theory to the test of experiment, I accompanied a French gentleman to the Trosachs, and marked his emotions as he stood on the gorge of the pass leading towards Loch Katrine. He was comparatively a stranger to the manners, customs, and history of Scotland ; although, at the same time, from acquaintance with English literature, he had some few ideas concerning the inhabitants of the mountains, which he might have associated with the rocks which he beheld. He possessed considerable Ideality, and a cultivated understanding. When the scene burst upon him in the full effulgence of its glory, he stood in mute astonishment and delight, until I asked him what *ideas* were passing in his mind. His answer was, “ Mon Dieu, je sens, et je ne pense pas.” I explained to him the motive of the question, and he declared that he experienced only feelings of the most intense and elevating description ; that every nerve thrilled with pleasure, and that he thought of nothing, but resigned himself entirely to these delightful emotions.

On analyzing them, he said that he felt his mind excited to rapture by the richness and exquisite elegance of the trees and shrubs with which the mountains were clothed ; that his soul was awed into sublimity, by the stupendous and broken cliffs which towered in magnificence to the clouds ; and that even the chill of fear crept silently along his nerves, as the

projecting precipices were perceived threatening to fall, and to cut off communication with the world around : and again he declared, that he thought not, and cared not who inhabited the wilds, until the force of the first and most exquisite emotion was spent ; after which his mind began to be occupied with ideas of collateral objects, or coolly to think ;—and that then the emotion diminished rapidly in intensity, till at last it ceased entirely to exist.

On another occasion I accompanied a gentleman, also of education and a cultivated understanding, but with little Ideality, to the same spot. He looked calmly around, and exclaimed,—“ Pretty trees these ! High hills ! Terrible uproar of elements been here ! Difficult pass for the Highlanders ! ” &c. ; but he exhibited no emotion, and no deep-toned sentiment of the beautiful and sublime, like the other.

The former of these instances shewed, that the supposition “ that material objects, which obviously do neither hurt nor delight the body, should yet excite, by their mere physical qualities, the very powerful emotions which are sometimes excited by the spectacle of beauty,” is not quite so “ intrinsically absurd and incredible ” as Lord Jeffrey imagines ; while the second instance indicated that Ideality is truly the faculty which feels the beautiful and the sublime, and that, where it is not powerful, the most magnificent scenes may be regarded with pleasure, but with no intense emotions of beauty.

In composition, this faculty imparts splendour and elevation to the style, and it manifests itself in prose as well as in poetry. The style of Lord Bacon is remarkably imbued with the splendour of Ideality, sometimes to excess, while that of Locke is as decidedly plain ; and the portraits of both shew that their heads corresponded with these different manifestations. Hazlitt’s head indicated a large development of Ideality, and the faculty glows in his compositions. It was the sustaining power which gave effect to his productions ; for he was eminent for neither sound principles, correct observations, nor extensive knowledge. He

seems to have relied chiefly on his imagination and language for success ; and his works are already sinking into the shades of oblivion. In Lord Jeffrey's head, as it appears in the bust, Ideality does not predominate. The report was current at the time, that the review of Lord Byron's Tragedies, which appeared in No. lxxii. of the *Edinburgh Review* (February 1822), was the joint production of these two celebrated authors ; and keeping in view the fact that Mr Hazlitt's Ideality is larger than Lord Jeffrey's, it would not be difficult, by a careful analysis of the article, to assign to each the sentences which he wrote. Lord Jeffrey's predominating intellectual organs are Eventuality, which treasures up simple incidents or events ; Comparison, which glances at their analogies and relations ; and Causality, which gives depth and logical consistency to the whole. Hazlitt, on the other hand, possessed a large Comparison, respectable Causality, with a decidedly large Ideality, elevating and adorning his intellectual conceptions. Proceeding on these views, I should attribute the following sentence to Lord Jeffrey's pen, as characteristic of his manner. Speaking of the qualities of Shakspeare's writings, the reviewer says : " Though time may have hallowed many things that were at first but common, and accidental associations imparted a charm to much that was in itself indifferent, we cannot but believe that there was an original sanctity which time only matured and extended, and an inherent charm from which the association derived all its power. And when we look candidly and calmly to the works of our early dramatists, it is impossible, we think, to dispute, that, after criticism has done its worst on them ; after all deductions for impossible plots and fantastical characters, unaccountable forms of speech, and occasional extravagance, indelicacy, and horrors ; there is a facility and richness about them, both of thought and of diction ; a force of invention, and a depth of sagacity ; an originality of conception, and a play of fancy ; a nakedness and energy of passion, and, above all, a copiousness of imagery, and a

sweetness and flexibility of verse, which is altogether unrivalled in earlier or in later times; and places them, in our estimation, in the very highest and foremost place among ancient or modern poets.”¹ In this passage, we have the minuteness of enumeration of Eventuality, the discrimination of Comparison and Causality, and the good taste of a fair, but none of the elevation, ornament, and intensity, of a large, Ideality. In another part of the same review,² we find the following sentences: In Byron, “there are some sweet lines, and many of great weight and energy; but the general march of the verse is cumbrous and unmusical. His lines do not vibrate like polished lances, at once strong and light, in the hands of his persons, but are wielded like clumsy batons in a bloodless affray. . . He has too little sympathy with the ordinary feelings and frailties of humanity, to succeed well in their representation. ‘His soul is like a star, and dwells apart.’ It does not ‘hold the mirror up to nature,’ nor catch the hues of surrounding objects; but, like a kindled furnace, throws out its intense glare and gloomy grandeur on the narrow scene which it irradiates.” Here we perceive the glow of Ideality; the simplicity of the former style is gone, and the diction has become elevated, figurative, and ornamental. I am not informed regarding the particular sentences which each of the above-named gentlemen wrote in this review; but these extracts will serve as brief examples of the differences produced on the style, when Ideality sheds few or many beams on the pen of the author; and I regard the probabilities as very strong, that the passages are assigned to their actual sources.

The organ is regarded as ascertained.

¹ P. 416—17.

² P. 420.

Sentiment of the Beautiful in the Fine Arts.

Dr Vimont makes the following observations on a new organ which he says that he has discovered, and which gives the sense of the beautiful in the fine arts.

“ I have been led,” says he, “ to the discovery of this faculty, in studying carefully the difference which exists between certain persons, when they pronounce a judgment on the productions of art or science. . . . Is the sense of the beautiful, or taste (faculties which appear to me to be identical) arbitrary, as some imagine, or the consequence of the progress of art and science, as others maintain ; or is it, as I am disposed to believe, a sentiment natural to man, inherent in his organization, which external circumstances may develope, but which they cannot create ? . . . I do not think that the sense of the beautiful, or taste, should be ascribed to the poetical talent : Some great poets and painters, and some celebrated sculptors, are occasionally deficient in taste in their compositions. A few examples will shew still more strikingly the truth of this assertion. The productions of literary men and poets, like those of artists, may present, together or separately, three well-marked objects of contemplation, the successful combination of which constitutes a perfect production : 1. The materials ; 2. The disposition or arrangement of the materials ; and, 3. Invention.

“ The first results from the action of several of the perceptive powers and of the constructive faculty. The arrangement or disposition of the materials, appears to me to belong to the sentiment of the beautiful, or of taste ; finally, invention springs from a powerful development of all the reflecting faculties, often joined to the poetic talent. A great number of painters possess the faculties of the first and second order ; I should say that their productions are well executed, and shew good taste, but have no portion of the

third quality, which characterizes the man of genius. . . . Among the poetical productions of the ancients, 'those of Virgil appear to me to be superior to those of Homer in point of taste, although inferior in genius and strength. The pure, the correct, the beautiful Racine yields, undoubtedly, to Corneille in energy and elevation of expression. Shakspeare, whose poetic genius no one will deny, sins often against taste, even in his best compositions. How great a difference, also, is there in the sentiment of the beautiful, between Michael Angelo and Raphael. It is boldness and breadth of conception which astonish us in the first, while there is often a want of that correctness in the design and of that felicity of expression which captivate the spectator; while the compositions of Raphael are distinguished equally by invention and by the exquisite taste and beauty which they exhibit.

"The Athenians among the ancients, and the French among the moderns, appear to me to be endowed with the sense of the beautiful in a high degree; while it is much less developed in the Germans and English.

"The seat of the organ of the sentiment of the beautiful in art appears to me to be in the superior, lateral, and external portion of the frontal bone. Gall and Spurzheim confound it with the organ of Constructiveness; especially when they say that sometimes the latter organ lies a little higher than usual. I hold it as demonstrated, that there are two organs on the lateral external part of the frontal bone, the lower, that of Constructiveness; the upper, that of the sentiment now described; which I consider myself to have discovered."

I have not been able to verify this organ. Taste in the arts appears to me to depend on a fine temperament and a harmonious combination of the organs which give a talent for art, with those of the moral and intellectual faculties. See the section on Taste in Volume II. of this work.

Dr Cargill, without knowing of Dr Vimont's views, has

suggested the idea that *Wit* is the organ necessary to give completeness to the creations of art.¹

20.—WIT, OR MIRTHFULNESS.

EVERY one knows what is meant by wit, and yet no word presents more difficulties in its definition. Dr Gall observes, that, to convey a just idea of the faculty which produces it, he could discover no better method than to describe it as the predominant feature in the minds of Rabelais, Cervantes, Boileau, Racine, Swift, Sterne, Voltaire. In all these authors, and in many other persons who manifest a similar talent, the anterior-superior-lateral parts of the forehead are prominent and rounded. When this development is excessively large, it is attended with a disposition, apparently irresistible, to view objects in a ludicrous light.

Wit, however, is not the only cause of laughter. Laughing, like crying, may arise from a variety of faculties. I was acquainted with a boy in whom Acquisitiveness was large, and who laughed when one gave him a penny. Another youth, who possessed a large Love of Approbation, laughed when unexpected praise was bestowed upon him. A lady, in whom Destructiveness is large, told me that she involuntarily laughs when she sees instantaneous misfortune happen to any one, such as the breaking of an arm, or falling in the mud. She is sensible that the laugh is unamiable; but adds that it is instinctive and irresistible. It is only of momentary duration. It appears to me to proceed from the unexpected gratification of Destructiveness. These facts, to which many more might be added, shew that we may smile from any pleasing affection of the sentiments, or even of some of the propensities; and that the cause of a smile is not always the ludicrous. This view is confirmed by the circumstances which occur in hysterical affections.

¹ *Phrenological Journal*, vol. xii. p. 194.

It is not uncommon to see a lady or child laugh and cry alternately and involuntarily, apparently on account of some varying affection of the whole mental system, rather than from any particular ludicrous or distressing idea presenting itself by turns to the fancy. I have noticed farther, that a large development of Hope, Benevolence, and Wonder, producing happy emotions, predisposes the possessor to laugh ; while Cautiousness, Veneration, Conscientiousness, and Reflection, when predominant, give rise to a natural seriousness and gravity, adverse to laughter, the tone of these faculties being grave and solemn.

There may be much excellent wit, without exciting us to laugh. Indeed, Lord Chesterfield lays it down as a characteristic feature of an accomplished gentleman, that he should never laugh ; and although this rule is absurd, yet there may be a high enjoyment of wit without laughter. The following are instances in point. There is a story of a Nottinghamshire publican, *Littlejohn* by name, who put up the figure of *Robin Hood* for a sign, with the following lines below it :

“ All ye that relish ale that’s good,
Come in and drink with *Robin Hood* ;
If *Robin Hood* is not at home,
Come in and drink with *Littlejohn*.”

This is genuine wit, what even Chesterfield would allow to be so : and yet it does not force us to laugh. Another instance is the following. Louis XV. once heard that an English nobleman (Lord Stair) at his court was remarkably like himself. Upon his Lordship’s going to court, the king, who was very guilty of saying rude things, observed, upon seeing him, “ A remarkable likeness, upon my word !—My Lord, was your *mother* ever in France ?” To which his Lordship replied, with great politeness : “ No, please your majesty, but my *father* was.” This also is admirably witty ; but it does not excite laughter.

In these instances, every one must perceive wit, although

no inclination to laughter is excited. In the following cases again, the risible muscles are affected, though in fact the real point of wit contained in them is infinitely less.

The story of the Nottingham publican, named Littlejohn, who erected the sign of *Robin Hood*, goes on to say, that Mr Littlejohn having died, his successor thought it a pity to lose so capital a sign, and so much excellent poetry, and accordingly retained both; only, erasing his predecessor's name, he substituted his own in its place. The lines then ran thus:—

“ All ye who relish ale that's good,
Come in and drink with *Robin Hood*;
If *Robin Hood* is not at home,
Come in and drink with *Samuel Johnson*.”

The whole wit is now gone, and yet the lines are much more laughable than before. In like manner, when a servant let a tongue fall from a plate, and a gentleman at the table said, “Oh, never mind; it's a mere *lapsus linguæ*,” there was genuine wit in the remark; but when another servant, who had heard that this was witty, let fall a shoulder of mutton, and thought to get off, by styling this accident, too, *lapsus linguæ*, the whole wit was extinguished, but laughter would be more irresistibly provoked. Now, in what does the wit of the first instances consist? and what is the cause of the more laughable effect of the second class of cases, in which the wit is actually extinguished?

This leads me to a definition of wit. Locke describes it as “lying most in the assemblage of ideas, and putting those together with quickness and variety, wherein can be found any *resemblance* or *congruity*, thereby to make up pleasant pictures, and agreeable visions in the fancy.” Now, it may be demonstrated, that this definition is erroneous. For example, when Goldsmith, in his beautiful verses on hope, compares that great blessing of humanity to the light of a

¹ *Essay on the Human Understanding*, b. ii. c. xi. § 2

taper, he adds a circumstance of resemblance, which, according to Locke's definition, is the perfection of wit.

“ Hope, like the glimmering taper's light,
Adorns and cheers the way,
And still, as darker grows the night,
Emits a brighter ray.”

But this, in point of fact, is only exquisitely beautiful, and not in the least witty. When we analyze the images here presented, we are able to refer them to Comparison and Ideality as their origin; the suggestion of simple resemblance, adorned with beauty, being their constituent elements.

Wherein, then, do the comparisons which are witty, such as those already cited, or *Hudibras's* famous simile,

“ When, like a lobster boiled, the morn
From black to red began to turn,”

differ from those which are not witty? This brings us at last to the consideration of the real nature of wit, and to the main object of all these remarks, the function of the organ now under consideration.

The authority of the metaphysicians tends to support the idea that the talent for perceiving resemblances is distinct from that which discriminates differences. Malebranche observes, that “ There are geniuses of two sorts. The one remarks easily the *differences* existing between objects, and these are the excellent geniuses. The others imagine and suppose resemblances between things, and these are the *superficial* minds.”¹ Locke makes the same distinction. After speaking of wit as “ lying most in the assemblage of ideas wherein any resemblance or congruity can be found,” he proceeds thus: “ Judgment, on the contrary, lies quite on the other side, in *separating carefully, one from another*, ideas wherein can be found *the least difference*, thereby to avoid being misled by *similitude, and by affinity to take one thing*

¹ *Rech. de la Verite*, liv. ii. 2d part, c. ix.

for another.'¹ Lord Bacon says, that "the chief and (as it were) radical distinction betwixt minds in regard to philosophy and science is this—that some minds have greater power and are more fitted for the observation of the *differences*, others for the observation of the *resemblances*, of things."

These ideas will be better understood by an illustration. The objection is sometimes stated, that Phrenology is no science, because a large organ of Destructiveness and a large organ of Benevolence may be found in the same head, and then they will *neutralize each other, like an acid and an alkali*. This objection would spring from a mind in which the power of perceiving resemblances was greater than that which perceives differences, and would appear conclusive at first sight to minds similarly constituted. But a person having a large endowment of the faculty for perceiving distinctions, would discriminate in a moment the *difference* between two inorganic substances, placed in a state of chemical mixture, and two organs subsisting separately, having distinct functions, and calculated for acting on different occasions; and he would see that the analogy had no force whatever.

Supposing, then, that the faculty of Comparison, to be afterwards treated of, perceives resemblances, the question occurs, Which is the faculty that perceives *differences*? Mr Scott has been led to believe that this depends upon the faculty of Wit, and that the primitive function of the power is to distinguish differences. He conceives that in all the foregoing instances in which wit is recognised, there is "a mixture of congruity and incongruity, or that incongruity appears where congruity was expected," which in principle is the same thing. This is nearly the definition of wit given by Beattie, and it approaches closely to that given by Campbell and Dr Thomas Brown. Now, he says that the proper function of the faculty under discussion is to perceive *difference*,—to observe, in short, *incongruity*,—and that it is only when this is done that wit is at all recognised. The wit in Lord Stair's reply lies in the incongruity between the answer

¹ *Essay*, &c. b. ii. c. xi. sect. 2.

which Louis received, and that which he expected. He evidently anticipated that Stair would say that his mother had been in France; and the king meant it to be inferred, that she had been false, and that Stair was his brother. His Lordship's reply, on the contrary, completely turned the tables on the king. "No, but my *father* was," implied that Louis by parity of reason, was descended of Stair's father. In like manner, when Kitty, a young lady of quality, celebrated in one of Prior's songs,

" Obtained the chariot for a day
And set the world on fire,"

we perceive the comparison between the young beauty's exploit and that of *Phæton* with the chariot of the Sun; and the difference or incongruity is so striking, that we feel it as an essential ingredient in the description, and relish it as wit. In the comparison of hope to the taper, on the other hand,

" Which still as darker grows the night
Emits a brighter ray,"

we attend only to the *resemblance*, which is very striking and beautiful, and *not to the points of difference*; and then the image strikes us as a *pure comparison*, and not as implying any incongruity,—and, in consequence, it is not felt as witty.

Wit, therefore, appears to consist chiefly in an *intellectual perception of difference*, of incongruity amid congruity; and hence wit, like an argument, may be retailed a thousand times, from mind to mind, without losing its intrinsic qualities; while humour, which is ascribed chiefly to Secretiveness, is entirely personal, and must be witnessed at the first hand to be at all enjoyed.¹ These are the ideas of Mr Scott, who has treated the subject at great length in *The Rhrenological Journal*. It is impossible to give here a comprehensive abstract of his views, and I shall therefore quote only one paragraph. "I strongly incline," says he, "to think that this

¹ The theory of humour is explained on p. 303.

is an intellectual faculty, and that while its function, as well as that of Comparison and Causality, is to compare ideas or feelings together, its special function consists in the peculiar manner of comparing. It does not compare, as Comparison does, to discover resemblances or analogies, nor, as Causality does, to draw refined distinctions, or to observe close philosophical relations ; but it compares for the purpose of discovering broad, violent, extravagant contrasts, and of bringing together ideas the most incongruous, disproportionate, and opposite in existence" (vol. iv. p. 195).

Dr Spurzheim, on the other hand, is of opinion, that " the same power which perceives resemblances, perceives differences also. I see no reason," says he, " for adopting two faculties for the act of discrimination. The same power perceives the harmony and disharmony of tones ; there is only one power of Colouring ; and the proportion and disproportion in dimensions are felt by the same faculty of Size ; in the same way, I think that Comparison alone distinguishes similitudes and dissimilitudes, differences, analogies, or identities." It must, however, be remarked on this passage, that the ultimate or simple function of Comparison is still under discussion, and that there seems to be a difference between the comparisons made by it and those made by Size, Form, Tune, and Colouring.¹

Dr Spurzheim considers the faculty now under consideration to be " a *sentiment* which disposes men to view every thing in a gay, joyful, and mirthful manner." He regards it as " given to man to render him merry and gay—feelings not to be confounded with satisfaction or contentment : these are affections of every faculty, whilst gaiety and mirthfulness belong to that which now occupies our attention." According to this view, wit consists in conceptions formed by the intellectual powers, imbued with the sentiment of the ludicrous ; in the same way as poetry consists in the produc-

¹ On this point, which it is unnecessary to discuss here in detail, see *The Phrenological Journal*, vi. 384, and ix. 435, 495 ; also the section on Comparison in this work.

tions of the other faculties, acting in combination with, and elevated by, Ideality. Dr Spurzheim observes, that even granting Mr Scott's supposition that one faculty perceives resemblances and another differences, it still appears necessary to admit a special feeling of Mirthfulness. "We may excite Mirthfulness, it is true, by making comparisons of things which differ; but," says he, "we may do so also by comparing things which resemble each other. If, amidst incongruity and difference, we seek for analogies, the faculty of Comparison is active, and combined with Mirthfulness it will undoubtedly make us laugh. But we may laugh heartily at a single object, without allusion to any difference. Those who are the most disposed to laugh and to be merry, are not always the most intelligent and the most skilful in distinguishing either analogies or differences. The feeling of Mirthfulness, therefore, seems to be special. It may be excited by pointing out differences or resemblances, by the agency of various feelings, by playing tricks, or by inspiring fear. The fundamental power, then, cannot be wit. This is only one of its applications, and results from its combination with intellect." An ingenious writer in *The Phrenological Journal*, vol. iv. p. 364, supports with much ability Mr Scott's opinion, that the power of discrimination arises from the organ No. 20; but also states weighty reasons for considering the sense of the ludicrous as a distinct mental power, not intellectual but affective, the organ of which is not yet ascertained, but which he is disposed to look for between the organs of Wit, Wonder, and Imitation. The locality of the organ No. 20, in the forehead, among those of the intellectual faculties, certainly is a ground for presuming that its function is not affective. Mr Hewett Watson, however, thinks that Mr Scott's ideas are untenable, "inasmuch as the poet Moore, in whose mask Wit is but moderately developed, evinces a very considerable perception of difference."¹

Mr Schwartz of Stockholm, in an able paper, communicated to the *Phrenological Journal*, says, "I see every reason

¹ *Phren. Journ.* vi. 451.

to believe that the organ of Wit forms a fourth intellectual faculty, allied to the three already named, and to regard it as the faculty which considers objects in their relation of means to an end (*nexus finalis*), or which enables us in thought to arrange and combine circumstances as leading to one aim. I know no name which designates it so well as the denomination *faculty of combination*." He also speaks of the faculty as giving "presence of mind," and as "inventive talent." He states no cases in support of his opinions.

In *The Phrenological Journal*, vol. vi. p. 451, Mr Watson has given a different analysis of this faculty from that of Mr Scott, and ably illustrated it. He regards it as an intellectual power, whose function is to take cognizance of the nature or intrinsic properties of things, the office of Causality being to perceive the "relations of causation and dependence in general." According to him, the ludicrous is a *mode* of manifestation of all the intellectual faculties, and he gives examples in which Sheridan and Moore display great wit, chiefly from Individuality and Comparison. The faculty now under discussion, also produces wit as a *mode* of manifestation; but he conceives that it does so always by comparing or contrasting the *intrinsic qualities* of objects. The study of character "is included in the functions of Wit, not merely the actions performed, but the real dispositions." "Let us now take up," says he, "the sentimental Tour of Sterne, in whose mask Causality and Wit are predominating organs. Almost the whole tenor of this work, unlike that of most tourists, consists of disquisitions concerning the dispositions and inherent qualities of persons and things; for, instead of narrating whom and what he saw, his attention seems to have been absorbed in speculations as to their conditions, dependences, nature, and qualities.

"Sheridan enjoyed no slight reputation as a wit; but any one taking the trouble to analyze his manifestations in that way, will soon perceive that the wit of this remarkable individual almost always consists of comparisons, or contrasts of proportion, position, objects, and events, with little or no

reference to their attributes or inherent properties. For instance, he compares a tall thin man with a short fat wife, to a church and steeple ; beaux flirting with a lady seated in a very high carriage, to supporters hanging half way up the door ; a tall thin man, to a tree run up against a wall ; and such an one with his arms spread, to a cross on a Good-Friday bun."

"As therefore, in the works of individuals noted for the large development of Wit, we find a peculiar tendency to dwell on the essential properties of things, and, at the same time, in some of them an equal tendency to ridicule all fancy, philosophy, and reasoning, wherein there appears neglect or ignorance of these attributes ; as we are not aware of any other organ which can include perceptions of this nature in its function ; and as the inherent properties of the constituent parts of creation seem to be intellectual perceptions, equally distinct from those of condition or dependence as those of objects are from those of their position and physical properties ; there seems no slight probability for supposing the existence of some distinct organ for such perceptions ;—and, further, if we find them manifested strongly when the organ of Wit is large ; if the peculiar wit and satire believed to be connected with the function of this organ is found to depend essentially on such perceptions : and if other kinds of wit—that of Curran and Sheridan, for instance—may exist with a moderate or deficient endowment of this organ ; we shall be almost necessarily forced to the conclusion that perception of inherent properties does depend on the organ of Wit, unless it can be shewn to exist powerful when the organ is feebly developed, which we have in vain looked for.

"It hence appears that the range of this faculty is far more extensive, and that it forms a much more essential ingredient in our philosophic capacities, than could be predicated from only observing its manifestations when acting along with Secretiveness, Self-Esteem, Combativeness, and Destructiveness, to produce irony, sarcasm,^q ridicule, and satire : or, with other intellectual powers, to sparkle in the

sallies of wit. Directed towards man, it probably gives a tendency to investigate the real character, instead of resting content with observing appearances or actions, which seems to have been greatly the bent of Sterne's mind, and considerably so of that of Franklin. Taking the direction of religion, it will inquire into the nature and attributes of God, as manifested in creation. Cowper affords an example of this, and Socrates may be also named. In physiology, primary or essential function, as distinct from modes of manifestation, and particular actions and directions, will be its aim. To the metaphysician it will impart a strong desire for ascertaining the nature and inherent powers of mind, and of creation in general. Phrenology, being an union of the two latter—the metaphysician and the physiologist—its founders will afford us a suitable illustration. In the bust of Dr Gall the organ is represented much less developed than in that of Dr Spurzheim; and the superiority of the latter in discriminating modes of manifestation, and particular directions of the mental powers, from the powers themselves, is familiar to all phrenologists. Perhaps, too, we shall not err in adducing Locke as a negative instance of the faculty. In the portraits of this philosopher, Comparison and Causality appear greatly larger than Wit; and his system derives not only ideas, but the mental feelings, from external impressions; but as he was obliged to give the mind a capability of being affected by impressions on the external senses, he endowed it with the faculties of perception, contemplation, memory, comparison, and abstraction, which are in reality but modes of activity, not inherent powers. His grounds for denying the innateness of ideas were their non-manifestation, or various modifications in different individuals, from which it would seem that modes of being were to him in lieu of innate powers.

“It has been supposed that the organ of Wit gives a tendency to view every thing in a ludicrous light; but if the ideas here proposed concerning its functions prove correct, such a supposition must be untenable; and that it is so, in point of fact, may be shewn by reference to nature. The

masks of Drs Cullen, Franklin, and Spurzheim, exhibit a greater development of the organ than do those of Curran, Swift, and Sheridan. And further, let any one appeal to his own private friends in whom the organ is largely developed, and ask whether they are not oftener pained than pleased by things of opposite and unharmonizing nature brought into unnecessary contact; and, on the other hand, delighted by harmonies between the properties or attributes, whether real or imaginary, of different objects."

"It seems that almost all amusing wit consists in a slight resemblance addressed to the function of one organ, and at the same time a difference to that of another,—thus coming still nearer to Mr Scott's theory of laughter than his own view of wit could do. For, if there were distinct organs to perceive resemblance and difference, each would be *similarly* excited by the specimens of wit; but if these be modes of activity common to all the intellectual powers, then one of them is agreeably excited by the similarity, and the other jarred by the contrast, producing *different states* of excitement. We say 'jarred,' because the more any organ is developed, the more are similarities and harmonies between its perceptions sought after; Tune, Colour, and Number, for example."

My own view is, that the organ in question manifests the sentiment of the ludicrous, and that wit consists in any form of intellectual conception combined with this sentiment. If this opinion is adopted, another question arises, namely, What are the objects of the sentiment of the ludicrous? We are able to point out certain forms, colours, and proportions, which are intrinsically beautiful, and to specify them as the external objects to which Ideality is related. An ingenious friend stated the idea that there are also external objects which in their own nature are ludicrous, and which stand in an established relation to the sentiment of gaiety. He specified night-caps, the nose, the elbow, a sailor with a wooden leg, and a windmill, as examples. It appears to me that the ludicrous is merely a *mode of existence*, of which almost all natural objects

are susceptible, but which is not the sole or necessary characteristic of any of them. The nose, for example, when perfect in form and harmonious in colouring, in relation to the other features, naturally excites the sentiment of the beautiful, and calls up emotions of pleasure and admiration, and not at all any ludicrous feeling: let its proportions, however, or its colour, be changed, so that it shall be too long or too short, too high or too low, too red or too white, and it will instantly excite the sentiment of the ludicrous. There are several other sentiments which possess the characteristic of having no special objects in nature related to them, but of being liable to be excited by certain modes of existence. There is no object, for instance, that, in all its modes of existence, is specially and directly terrible, or instituted apparently for the direct purpose of rousing Cautiousness. A lion in a cage, or the sea in a calm, is not terrible: but both become highly so when lashed into fury, and threatening to devour us. The conclusion which I draw from this view is, that although a sentiment of the ludicrous has been bestowed on us by a benignant Creator, to contribute to our amusement, yet there is no object in nature which in itself is essentially and necessarily ludicrous or absurd. If any part of the human form, for example, or any imperfection or disproportion in its parts, were necessarily ludicrous, he in whom such aberrations occurred would be doubly afflicted—first by the physical inconvenience: and, secondly, by being a natural and inevitable object of merriment to the whole human race, the latter being by far the greater evil of the two. Byron seems to have entertained the notion that some such impression was excited in the minds of spectators by his lame foot, and it rendered him extremely miserable. It would be in vain to attempt to educate a child by precept and example to feel compassion instead of mirth, on seeing an old sailor with a wooden leg, if a maimed man, supplying his defect by art, were necessarily a ludicrous object. But it would be quite possible to do so, if the ludicrous be only a mode of existence, and not an inherent quality in objects. By directing the child's atten-

tion to the cause of the sailor's imperfection, probably fighting in defence of his country, and to the inconvenience which he suffers from it, he might be rendered an object of interest to Benevolence and Veneration, and thus excite feelings of kindness and respect, instead of those of the ludicrous.

This view explains also why the most acute writers have failed in giving a satisfactory definition of wit. If no object whatever be in its own nature ludicrous, and if every mundane object may assume a ludicrous aspect as one of its modes of existence, it is clear that any definition, or even description of the ludicrous, as a specific entity, must be impossible.

As the essential function of a faculty is most strikingly manifested when its organ is in excess, I have watched the manifestations of several individuals in whom Wit predominated over Causality, and perceived in them a striking love of the purely ludicrous, with a regardlessness equally of the intrinsic and of all the other philosophical qualities of things. Their great delight was to heap absurd and incongruous ideas together, to extract laughter out of every object, and to enjoy the mirth which their sallies had created. In consequence of these observations, I so far embrace Dr Spurzheim's views as to regard the sentiment of the ludicrous as the primitive function of the organ.

The different degrees of development of the organ, in different individuals, explain why some men see the ludicrous in objects in which it is not perceived by others,—the larger the organ, the greater, *cæteris paribus*, is the tendency to discover ludicrous appearances.

Assuming that the organ in question manifests the sentiment of the ludicrous, we may trace the effects which it will produce when combined with the other organs in different degrees of development. I observe,

First, That any particular faculty takes the lead in impressing its character on the mental manifestations of an individual, only when in him its organ predominates over the other organs which are in their nature opposed to it.

Thus, if Wit full be combined in one person with large organs of Reflection, and also with large organs of Veneration, Cautiousness, and Conscientiousness, deficient organs of Hope, and moderate Benevolence,—a combination which produces a serious and sombre disposition,—the sentiment of the ludicrous, being little in harmony with the predominant feelings of the mind, will only in a slight degree communicate its peculiar quality to the manifestations. If, in another individual, Wit, also full, be combined with moderate reflecting organs, large knowing organs, moderate Cautiousness, Veneration, and Conscientiousness, large Hope and large Benevolence,—a combination which renders the intellect observant and prompt, but superficial, and the dispositions gay, careless, and disposed to enjoyment,—the sentiment of the ludicrous, being much in harmony with such a mental constitution, will appear much more prominently in the manifestations than in the preceding instance.

Again : If Wit full or large, be combined with the knowing organs large, and the reflecting organs moderate, the possessor will manifest his wit in “ comparisons or contrasts of proportion, position, objects, and events,” all derived from the knowing organs, with little or no reference to their inherent qualities or logical relations, which are perceived by the organs of reflection. This combination occurred in Sheridan, in whom the moral organs also were deficient ; so that not only a considerable love of the ludicrous, but the special character of his wit, in so far as it was original, appear to me to have been the natural results of his peculiar combination of organs.

On the other hand, when Wit full or large, is combined with large organs of Eventuality, Comparison, and Causality, and deficient organs of Individuality, it will naturally display itself in comparisons and contrasts of modes of action, suggested by Eventuality, and intrinsic qualities, or causes, and their relations, suggested by Causality.¹ This combination occurred in Voltaire.

¹ Mr Watson, in the *Phren. Journal*, vol. x., p. 368, says, “ I have seen

In Sterne, Individuality appears to have been moderate, Eventuality small, Form, Size, and Weight very large, and Causality, Comparison, and Wit all large. From this combination we should expect few witty ideas to be drawn from substantive existences in their aggregate aspects, but many from their forms and proportions ; few from the actions of things or persons, but many from the causes of actions and events,—in other words, from their inherent qualities and their relations ; and in accordance with these anticipations, Mr Watson remarks that, “instead of narrating whom and what he saw, Sterne’s attention (in the *Sentimental Journey*) seems to have been absorbed in speculations as to their conditions, dependences, nature, and qualities.”

When the organ of Wit large, is combined with a large development of Comparison, Causality, and the moral organs, although it may not prominently manifest itself in witty contrasts, yet, by communicating a vivid sense of the ludicrous, it may tend to increase that character of harmony and propriety in the mental manifestations in general, which this combination naturally produces. Dr A. Combe presents an example in point. While the grave and important topics of which he treats lead him, in his published works, to suppress the direct manifestations of his large organ of Wit, yet the faculty appears to me to enhance the justness and harmony of his general mental perceptions, in the same way as Ideality, when large, imparts a tinge of beauty and elevation to the manifestations of the other powers. On occasions that are not serious, his organ of Wit shines forth in ludicrous combinations in proportion to its size ; but these instances occur only in the retirement of private life. In familiar intercourse, Dr Spurzheim also manifested a strong sense of the ludicrous ; but, apparently, for similar reasons, he seldom

three cases of living individuals which strongly tend to corroborate the views of Dr Spurzheim ; and it may be that the examples adduced by Mr Scott and myself in former volumes of the *Phren. Journal* are the manifestations of Wit and Causality combined.”

manifested it in his philosophical works. In Dr Franklin and Lord Kames, both of whom in general wrote in a grave style, the organ was large, in combination with large Comparison and Causality ; but both were, on suitable occasions, humorists, and renowned for their love of jokes, indicating the activity of the organ in question. In Horace Smith, Individuality, Eventuality, and Comparison are rather large, Causality and Imitation are large, and Wit is very large. This combination should have given him a wide range of sources from which to draw ludicrous ideas, viz., from objects themselves, from their modes of action, from their condition, their essential qualities, and the effects of these qualities when operating as causes. The displays of wit, humour, burlesque, and ridicule, of various kinds, which occur in the "Rejected Addresses," appear to me strongly to corroborate these ideas ; but those who have critically analysed his writings will best judge how far they support the views here propounded.

The sentiment of the ludicrous, acting in combination with Self-Esteem, produces ridicule. There is always an implied self-superiority in the individual who laughs at others. To persons possessing large reflecting and moderate knowing organs in combination with large Wit, many of the sallies of men in whom Wit only moderate or full, is combined with large knowing and deficient reflecting organs, appear sheer impertinences and absurdities ; yet such sallies are highly relished by individuals possessing the same combination with their authors. Hence an individual may, among certain persons, enjoy the reputation of being a great wit ; while others, judging from the same exhibitions, may pronounce him to be only a great buffoon. No spectacle is more ludicrous than that which is presented when persons of slender intellect, in overweening confidence in their own superiority, set themselves to ridicule the opinions of men of profounder understandings and more extensive information than themselves. Ideas which their

shallowness alone renders them incapable of comprehending, and truths which only their ignorance leads them to doubt, are confidently assailed as intrinsically ludicrous or absurd. The contrast between the estimate which they form of their own wisdom, and the real magnitude of their folly, presents the richest features of the truly comical.

The sentiment of the ludicrous acting in combination with Imitation, produces the Burlesque, the ludicrous effect of which is derived from adding to the representation of an object a certain kind and degree of exaggeration, diminution, or distortion of its real attributes, but not so great as to offend Causality and Comparison ; when it goes so far, it degenerates into the absurd.

Some individuals derive much gratification from manifestations of Imitation. When the Imitation is perfectly correct, and the objects imitated are in their own nature grave, the representations are not ludicrous, but the slightest exaggeration or diminution will render them so ; and as most imitations, either by gestures, looks, and tones—as in mimicry, for instance—or by forms, proportions, and colours, as in caricatures, are exaggerations, they excite the sentiment of the ludicrous. A moderate endowment of the organ of Wit is sufficient to enable the individual who possesses a large Imitation, to infuse the ludicrous quality into his representations.

Other faculties besides Wit are gratified by unexpected contrasts and comparisons. Secretiveness and Wonder are important elements in a talent for conundrums, charades, riddles, and enigmas. In these, difficulty in the form of mystery is presented by Secretiveness, and is addressed to Secretiveness in others, while surprise at the explanation or denouement is a gratification to the faculty of Wonder. This combination of organs occurs in persons who display most talent in these mental feats, and also in those who most enjoy them. Both must enter into the spirit of the concealment and surprise, before they can become interested in them. When Wit large is added to this combination, the conun-

drums, &c., will partake more of the ludicrous quality ; when Causality large is added to it, they will partake of the ludicrous and logical, and so forth.

I do not regard the cases of Curran and Sheridan as attended with much difficulty. In Curran's mask the organs of Eventuality and Comparison are large, while those of Causality and Wit are only full. It is not surprising that with this combination he should acquire a reputation for wit of a certain kind, I suspect chiefly burlesque humour. I have searched in vain in his speeches, reported in his Life written by his Son, for proofs of the higher kinds of intellectual wit. From his biography I infer that he possessed a very active temperament, and large Destructiveness, Secretiveness, and Imitation ; and that these organs, combined with large Eventuality and Comparison, gave him fertility of invention, copiousness of illustration, *savoir-faire*, and a command, to a certain extent, of drollery, and a coarse satirical humour. By dint of these talents he appears to have addressed himself dexterously to the prevailing sympathies of his audience for the time, and to have produced an effect on their minds much greater than either the witty or the intellectual qualities displayed in his speeches would lead a modern reader to expect.

Sheridan's literary works contain more examples of intellectual wit than the remains of Curran. In him the moral organs were only moderately developed, while he had a large development of Individuality, Eventuality, and Comparison, with Causality scarcely full. This combination would render him little prone either to seriousness of feeling or depth of reflection, and would confer on his organ of Wit a relative ascendancy. The wit in Sheridan's works is more abundant, and of a higher character, than the organ of the faculty in his head would lead us to expect ; but in his biography by Mr Moore, an instructive light is cast on this apparent anomaly. Much of the wit which sparkles in Sheridan's pages was not his own, but collected in the intellectual circles in London in which he moved, noted down by him when uttered by his

friends, and subsequently wrought up into his own productions. His speeches are a truer record of his own powers, and they partake much of the general character which distinguishes those of Curran. They are brilliant and clever, corresponding, with his large knowing organs, but meagre in that kind of intellectual wit which results from Causality and Comparison, acting in combination with the organ of the ludicrous. I cannot, therefore, regard either Sheridan or Curran as witty men of the same kind as Voltaire and Sterne, and the author of *Hudibras*. The Reverend Sidney Smith is a living example of a really witty mind. His wit is generally pertinent to the object about which he reasons. It is the seasoning to solid argument, and in fact is often in itself argument. Sheridan, when he drew on his own resources, manifested Individuality, Eventuality, and Comparison, in enumerations and descriptions of physical objects and events, and by means of a moderate organ of Wit he tinged them with the ludicrous. Sidney Smith, on the other hand, impregnates the abstract deductions of reason with wit, presenting the strongest arguments in the most ludicrous attire, yet keeping the wit always subordinate to the logic. Causality, combined with a large organ of Wit, appears to me to be indispensable to the manifestation of these qualities.

I agree with Mr Watson, that some individuals have a great talent for investigating the intrinsic qualities of things, including the primitive functions of the mental faculties and bodily organs, who yet are not distinguished for wit. Dr Reid and Mr Dugald Stewart were not distinguished for the power of discriminating between primitive faculties, the laws of their operation, and the results of their acting in combination. Mr Stewart indeed was remarkably deficient in this quality.¹ Dr Thomas Brown possessed much more of this

¹ The following sentence, which occurs in the very threshold of his philosophical writings, affords a striking illustration of the remark in the text. "Upon a slight attention to the operations of our own mind," says he, "they appear to be so complicated, and so infinitely diversified,

discriminating talent. Those differences remain to be accounted for.

In the *Phrenological Journal*, vol. xi. p. 381, Mr Watson

that it seems to be impossible to reduce them to any general laws. In consequence, however, of a more accurate examination, the prospect clears up; and the phenomena which appeared at first to be too various for our comprehension, are found to be the result of a comparatively small number of simple and uncompounded faculties, or of simple and uncompounded principles of action." It is extremely difficult to comprehend the *distinction* between "*faculties*" and "*principles of action*," which is obviously implied in the terms of this sentence. Mr Stewart proceeds: "These *faculties and principles are the GENERAL LAWS of our constitution*, and hold the same place in the philosophy of mind, that the general laws we investigate in physics hold in that branch of science."* This is evidently erroneous. The propensity of Destructiveness, for example, is a primitive faculty, and it acts according to certain laws. One of these laws is, that it is excited by injury or provocation; and that it lies dormant when its possessor is gratified. Under certain influences it may be excited by disease, and then it is a law of its constitution that it becomes extremely vigorous, and ungovernable by the other faculties, and that it adds greatly to the energy of muscular action. The propensity itself is a primitive faculty of our nature, and the phenomena which it exhibits take place regularly, and this regularity is metaphorically expressed by saying that it acts according to certain laws, which are called laws of our constitution; but there is a want of discrimination in mistaking the laws which the propensity observes, or its mode of action, for the propensity itself, which Mr Stewart here obviously does. The same want of penetration is apparent in his remark in regard to the objects of our investigation in physical science. It is true, that, in astronomy, the objects of our investigation are the *laws* which the principle of gravitation obeys; but in chemistry, which is equally a physical science, the elements and the inherent properties or qualities of substances, whatever these may be, are the ultimate objects of investigation, just as the primitive faculties are in mind. The modes of action of chemical substances, and the laws which they obey, are obviously distinct objects of study from the substances themselves. The mineralogist, for instance, studies the diamond, simply as it exists; while the chemist investigates its elements, and its modes of action, when exposed to heat and other external influences. Again, it has long been disputed, what *caloric* is in itself, whether it is a *substance*, or a *state* merely arising from certain modes of action in matter. But the laws which it obeys in being radiated, in being reflected, and in being concentrated, are clearly distinct objects of consideration from its substance, and yet Mr Stewart confounds them. This incapacity to dis-

* *Elements of the Philosophy of the Human Mind*, 2d edit. p. 10.

has given an able summary of the various opinions entertained by Phrenologists regarding this organ, with a commentary upon them; but no general agreement in regard to its ultimate function has yet been arrived at. Various discussions on it will be found in that work, vol. x. pp. 14, 148, 168, 368: also in vol. xi. p. 391; vol. xii. pp. 194 and 350; and vol. xiv. p. 291.

Dr Spurzheim, in the dissection of the brain, shewed that, anatomically, Ideality and Wit belong to the same department of convolutions; whence a presumption, in his opinion, arises that their functions belong to the same class of mental faculties: and as Ideality has been uniformly regarded as a sentiment, Wit may with propriety be placed under the same head.

It will be observed, that all these differences relate to the metaphysical analysis of the faculty, and that phrenologists are agreed on the fact, that witty and mirthful manifestations are connected with the organ now under consideration. The organ and its function, therefore, may, to this extent, be regarded as ascertained.

21.—IMITATION.

DR GALL gives the following account of the discovery of this faculty and organ. One day, a friend with whom he was conversing about the form of the head, assured him that his had something peculiar about it, and directed his hand to the superior anterior region of the skull. This part was elevated in the form of a segment of a sphere; and behind the protuberance there was a transverse depression in the middle of his head. Before that time Dr Gall had not ob-

criminate between primitive faculties and their modes of action, runs through almost all his writings. Sometimes he recognises original principles distinctly, as in pp. 367, 371, 372. On other occasions, he loses sight of the distinction between them and modes of action. I shall revert to this subject when treating of Association.

served such a conformation. This man had a particular talent for imitation. Dr Gall immediately repaired to the institution for the deaf and dumb, in order to examine the head of a pupil named Casteigner, who only six weeks before had been received into the establishment, and, from his entrance, had attracted notice by his amazing talent for mimicry. On the *mardi-gras* of the carnival, when a little play was performed at the institution, he had imitated so perfectly the gestures, gait, and looks of the director, inspector, physician, and surgeon, of the establishment, and above all of some women, that it was impossible to mistake them. This exhibition was the more amusing, as nothing of the kind was expected from the boy, his education having been totally neglected. Dr Gall states, that he found the part of the head in question as fully developed in this individual as in his friend Hannibal, just mentioned.

Is the talent for mimicry, then, said Dr Gall, founded on a particular faculty and organ? He sought every opportunity of multiplying observations. He visited private families, schools, and public places, and everywhere examined the heads of individuals who possessed a distinguished talent for mimicry. At this time, Monsieur Marx, secretary to the minister of war, had acquired a great reputation, by playing several characters in a private theatre. Dr Gall found in him the same part of the head swelling out as in Casteigner and Hannibal. In all the other persons whom he examined, he found the part in question more or less elevated in proportion to the talent for imitation which they possessed. It is told of Garrick, says Dr Gall, that he possessed such an extraordinary talent for mimicry, that, at the court of Louis XV., having seen for a moment the King, the Duke d'Aumont, the Duke d'Orleans, Messrs d'Aumont, Brissac, and Richelieu, Prince Soubise, &c., he carried off the manner of each of them in his recollection. He invited to supper some friends who had accompanied him to court, and said, "I have seen the court only for an instant, but I shall shew you the correctness of my powers of ob-

servation, and the extent of my memory :” and placing his friends in two files, he retired from the room, and on his immediately returning, his friends exclaimed, “ Ah ! here is the king, Louis XV. to the life !” He imitated in succession all the other personages of the court, who were instantly recognised. He imitated not only their walk, gait, and figure, but also the expression of their countenances. Dr Gall, therefore, easily understood how greatly the faculty of Imitation would assist in the formation of a talent for acting ; and he examined the heads of the best performers at that time on the stage of Vienna. In all of them he found the organ large. He got the skull of Junger, a poet and comedian, and afterwards used it to demonstrate this organ. Subsequently, he and Dr Spurzheim, in their travels, met with many confirmations of it. In particular, in the house of correction at Munich, they saw a thief who had it large. Dr Gall said he must be an actor ; surprised at the observation, he acknowledged that he had for some time belonged to a strolling company of players. This circumstance was not known in the prison when Dr Gall made the observation. On these grounds, Dr Gall conceived himself justified in admitting the existence of a special talent for imitation ; that is to say, a faculty which enables the possessor in some degree to personify the ideas and sentiments of others, and to exhibit them exactly by gestures ; and he considered this talent to be connected with the particular organ now pointed out.

I am acquainted with a lady in whom the organ is largely developed, and she has a strong tendency to imitate every sound she hears. If she be alone, or with a familiar friend, and she hear a cock crow, she will crow too. One day I sat beside her while she was reading. The growl of distant thunder reached her ear, and, to my amazement, I heard the very echo of its roar given forth by her throat. She did not think what the sound was which she imitated, until she saw me smile. She was then a little shocked at her own unintentional want of reverence in mimicking the thunder.

This faculty appears to me to confer the tendency to represent by sounds, gestures, looks, and forms, the ideas and emotions generated by all the other faculties. It is a power essentially of expression ; and does not originate any special sentiment or emotion.

Dr Vimont remarks that this organ is large in persons addicted to affectation. "Nobody," says he, "knows better than they how to reproduce the gestures which express a lively joy or poignant grief ; and if Secretiveness be well developed, they will not fail to assume those expressions and gestures which are best calculated to render themselves objects of interest to the spectators." This result follows only when Love of Approbation also predominates. I know great mimics who are not affected.

This organ contributes to render a poet or author dramatic ; such as Shakspeare, Corneille, Molière, Voltaire, &c. It is large in the portraits of Shakspeare, and also in the bust of Sir Walter Scott, whose productions abound in admirable dramatic scenes.

Mr Scott observes, that, in perfect acting, there is more than imitation,—there is expression of the propensities and sentiments of the mind in all the truth and warmth of natural excitement ; and this power of throwing real expression into the outward representation he conceives to depend upon Secretiveness.¹ Thus, says Mr Scott, a person with much Imitation and little Secretiveness, could represent what he had seen, but he would give the externals only in his representation ; add Secretiveness, and he could then enter into any given character as it would appear if existing in actual nature : he could, by means of this latter faculty, call up all the internal feelings which would animate the original, and give not a copy merely, but another of the same, —a second edition, as it were, of the person represented. In this analysis of acting, perhaps too much influence is ascribed to Secretiveness, and too little to Imitation ; my

¹ *Trans. of the Phren. Soc.* p. 169.

own opinion, as expressed on p. 305, is, that Secretiveness produces chiefly a restraining effect, and that Imitation enables its possessor to enter into the spirit of those whom it represents.

As imitation, strictly considered, consists in reproducing pre-existing appearances, this faculty is greatly aided by a large endowment of Individuality and Eventuality. In the heads of Garrick, and of the late Mr Charles Mathews, the comedian, these organs were very largely developed in addition to Imitation. Mr Mathews, in his autobiography, speaks of "that irresistible impulse I had to echo, like a mocking-bird, every sound I heard."

While, however, Secretiveness and Imitation together may thus be regarded as general powers, without which no talent for acting can be manifested, it is proper to observe, that the effect with which they can be applied in representing particular characters, will depend on the degree in which other faculties are possessed in combination with them. For example; an actor very deficient in Tune, however highly he may be endowed with Secretiveness and Imitation, could not imitate Malibran, or, what is the same thing, perform her parts on the stage; neither could an individual possessing little Self-Esteem and Destructiveness, represent with just effect the fiery Coriolanus; because the original emotion of haughty indignation can no more be generated by Imitation and Secretiveness, without Destructiveness and Self-Esteem, than can melody without the aid of Tune. Hence, to constitute an accomplished actor, capable of sustaining a variety of parts, a generally full endowment of the mental organs is required. Nature rarely bestows all these in an eminent degree on one individual; and, in consequence, each performer has a range of character in which he excels, and out of which his talents appear greatly diminished. I have found, in repeated observations, that the lines of success and failure bear reference to the organs fully or imperfectly developed in the brain. Actors incapable of

sustaining the dignity of a great character, but who excel in low comedy, will be found deficient in Ideality; while, on the other hand, those who tread the stage with a native dignity of aspect, and seem as if born to command, will be found to possess, with a generally large brain, Intellect largely developed; and also Firmness, Self-Esteem, and Love of Approbation large. It does not follow, however, from these principles, that an actor, in his personal conduct, must necessarily resemble most closely those characters which he represents to the best advantage on the stage. To enable an individual to succeed eminently in acting Shylock, for example, Firmness, Acquisitiveness, and Destructiveness are indispensable; but it is not necessary, merely because Shylock is represented as deficient in Benevolence, Conscientiousness, Veneration, and Love of Approbation, that the actor also should be so. The general powers of Imitation and Secretiveness, although they do not supply the place of faculties that are deficient, are quite competent to suppress the manifestations of incongruous sentiments. Hence, in his private character, the actor may manifest in the highest degree the moral sentiments; and yet, by shading these for the time, by the aid of Secretiveness, and bringing into play only the natural language of the lower propensities, which also we suppose him to possess, he may represent the scoundrel to the life.

This faculty is indispensable to the portrait-painter, the engraver, and the sculptor; and, on examining the heads of Mr W. Douglas, Mr Joseph, Mr Uwins, Sir W. Allan, Mr James Stewart, Mr Selby the ornithologist, and Mr Lawrence Macdonald, I found it large in them all. Indeed, in these arts, Imitation is as indispensable as Constructiveness. It also aids the musician and linguist, and, in short, all who practise arts in which expression is an object. On this faculty, in particular, the power of the ventriloquist depends.¹ In *The Phrenological Journal*, vol. xv. p. 80, the

¹ See "Phrenological Explanation of the Vocal Illusions commonly

organ is stated to have been very large in Mr Nightingale, a very remarkable mimick, who, at the Adelphi Theatre of London, imitated the celebrated actors.

Dr Spurzheim, alluding to Imitation, Wonder, Ideality, Wit, and Tune, observes, that "it is remarkable that the anterior, lateral, and upper region of the brain contains the organs of such powers as seem to be given particularly for amusements and theatrical performances."

Imitation gives the power of assuming those gestures which are expressive of the thoughts and feelings of the mind, and hence is requisite to the accomplished orator. In private life, some individuals accompany their speech with the most forcible and animated expressions of countenance ;—the nascent thought beams from the eye, and plays upon the features, before it is uttered in words ;—this is produced by much Imitation and Ideality.

In *The Phrenological Journal*, vol. xiv. pp. 138 and 342, will be found a very able essay on the "Functions of Imitation," by Mr Hudson Lowe. He is disposed to regard it as the organ of sympathy. In vol. xv. p. 358, the effect of Mesmerism in exciting the organ is described.

In children, Imitation is more active than in adults. Young persons are very apt to copy the behaviour of those with whom they associate ; and hence the necessity of setting a good example before them, even from the earliest years. "Children," says Locke, "(nay men too) do most from example ; we are all a sort of chameleons, that still take a tincture from things near us."² In several skulls of Russians in the collection of Dr Seiler, at Dresden, which I examined, this organ was considerably developed ; and this people is prone to imitation.

Cabanis relates a case in which the organ of Imitation seems to have been diseased. The patient felt himself im-

called Ventriloquism," by Mr Simpson, *Phren. Journ.*, vol. i. p. 466 ; and additional illustrations, vol. ii. p. 582.

² Locke's *Thoughts concerning Education*, § 67.

pelled to repeat all the movements and attitudes which he witnessed. "If at any time they prevented him from obeying that impulse, either by constraining his limbs, or obliging him to assume contrary attitudes, he experienced insupportable anguish; here, it is plain, the faculty of imitation was in a state of morbid excitement."¹ "A young idiot girl," says Pinel, "whom I have long had under my care, has a most decided and irresistible propensity to imitate all that is done in her presence; she repeats automatically every thing she hears said, and imitates the gestures and actions of others with the greatest accuracy."² A case somewhat similar is recorded in *The Philosophical Transactions*, No. 129, and transferred into *The Phrenological Journal*, vol. x., p. 370.

This organ is possessed by some of the lower animals, such as parrots and monkeys, which imitate the actions of man. The faculty is very powerful in the *Turdus Polyglottus*, or mocking-bird. "Its own natural note," says Dr Good, "is delightfully musical and solemn; but, beyond this, it possesses an instinctive talent of imitating the note of every other kind of singing-bird, and even the voice of every bird of prey, so exactly as to deceive the very kinds it attempts to mock. It is, moreover, playful enough to find amusement in the deception, and takes a pleasure in decoying smaller birds near it by mimicking their notes, when it frightens them almost to death, or drives them away with all speed, by pouring upon them the screams of such other birds of prey as they most dread."³

When this organ and that of Benevolence are both large, the anterior portion of the coronal region of the head rises high above the eyes, is broad, and presents a level surface, as in Miss Clara Fisher, who, at eight years of age, exhibited great talents as an actress. When Benevolence is

¹ Cabanis, *Rapports du Physique et du Moral de l'Homme*, tome i. p. 195.

² *De l'Alienation Mentale*, 2d edit. p. 99, § 115.

³ Good's *Study of Medicine*, 2d edit. vol. i. p. 463.

large, and Imitation small, there is an elevation in the middle, with a rapid slope on each side, as in Jacob Jervis.

CLARA FISHER.



JACOB JERVIS.



In both of these figures the head rises to a considerable height above the organs of Causality; but in Jervis it slopes rapidly on the two sides of 13, Benevolence, indicating Imitation deficient; whereas in Miss Clara Fisher it is as high at 21, Imitation, as at Benevolence, indicating both organs to be large.

I beg leave to refer the reader to what is said on pp. 141-2, in regard to the method of estimating correctly the size of the organs which lie in the coronal region of the brain. I have known many mistakes committed in judging of the size of Imitation, in consequence of not attending to the rules there laid down. The organs of Causality lie at the points of ossification of the frontal bone, and in almost every head they may be distinctly recognised.











